

Personal and practice profile of male and female ophthalmologists in India

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Background: The aim of this study was to study the practice pattern, personal profile, and work-family balance of male and female ophthalmologists in India. **Materials and Methods:** This study was conducted through 41 point questionnaire sent to the members of All India Ophthalmological Society dealing with practice profile and personal circumstances of ophthalmologists. **Results:** Six hundred and twenty-two (8%) responses were obtained out of 7723 invitations sent. A total of 452 were male and 170 were female ophthalmologists. Age group of 30–39 years was most common age of respondents (male 155; 35.3%; female 81; 47.6%). Larger number of male ophthalmologists (157; 34.7%) worked for more than 9 h a day than female ophthalmologists (41; 24.1%) ($P = 0.01$). Larger number of male ophthalmologists (229; 50.7%) earned more than Rs. 1 lakh/month than female ophthalmologists (55; 32.4%) ($P = 0.00001$). More female ophthalmologists (21; 12.4%) than males (26; 5.8%) said that they faced cultural, ethnic or gender bias at work place ($P = 0.002$). Forty-four (25.9%) female and 54 (12%) male ophthalmologists said that they often curtailed their work for family needs ($P = 0.0001$). Two hundred and fifty-two (55.8%) male ophthalmologists and 78 (45.9%) female ophthalmologists considered their profession rewarding ($P = 0.02$). **Conclusion:** Ophthalmology as a profession was considered rewarding by both male and female ophthalmologists. However, female ophthalmologists were curtailing their work for family needs and earning less than male ophthalmologists. Female ophthalmologists were also subject to gender bias at workplace. These issues need to be tackled to improve the work satisfaction of ophthalmology workforce.

Key word: Female, India, male, ophthalmologists, workforce

The challenge of balancing professional goals and personal life often proves to be a daunting task for doctors.^[1] The demand of utmost commitment to their work interferes with the obligations of family and personal life.^[1] This work-family conflict may be bidirectional in which the requirements of work and family may hinder the fulfillment of each other.^[2] Further the perception of ideal work-family balance may differ between men and women.^[3] In Indian, social structure women consider family role as a part of social identity more than what men do. If left unaddressed, this conflict can limit the work satisfaction of doctors which in turn can influence the efficiency of health care delivery system.^[4]

The number of women joining surgical as well as nonsurgical medical specialties has been increasing.^[1,5-8] This development is liable to influence the work-family balance and work satisfaction of the health care delivery workforce.^[7] There are few studies dealing with this issue in Indian context.^[4,9-11] An urban study from North India revealed high level of satisfaction among physicians; (two-third of total) irrespective of gender or place of work.^[4] However, there is no such study about ophthalmologists in India.

Ophthalmologists are prone to various occupational hazards linked to their day-to-day practice.^[12] Such hazards vary from physical burnout due to working in awkward posture

to psychological stress emanating out of peer pressure and gender difference.^[12] With this study, we aim to assess the work satisfaction and balance between professional and personal lives of male and female ophthalmologists in India.

Materials and Methods

The study was based on a 41-point web based questionnaire covering demographic characteristics, practice profile, personal circumstances, work-family balance and personal satisfaction of ophthalmologists. The questionnaire consisted of objective type questions with multiple options to choose from. Wherever felt necessary, space for subjective reply was provided. For example, the question about “type of practice” also had space for other possible modes of work, apart from those provided in the questionnaire. Most of the questions were in the forced choice format. With regard to monthly income, respondents were required to mark the answer against six income ranges. Questions which consisted of answer based on feelings, wishes, and desires, were based on three-level Likert scale (1 = often, 2 = rarely, 3 = never; or 1 = excellent, 2 = good, 3 = satisfactory). An option of “can’t say” was included in a few questions. The participants of this survey remained completely blinded as the questionnaire did not require them to identify themselves with names. Ethical approval of this study was obtained from the Institutional Review Board of the authors’ affiliation.

The study population consisted of ophthalmologists who were members of All India Ophthalmological Society and had valid E-mail address available in the members directory. The questionnaire was posted on a website meant for hosting surveys (www.surveymonkey.com) and the link was E-mailed to the ophthalmologists along with an invitation letter to participate in this anonymous survey, by one of the authors from their mail accounts. Once hosted on the website, there was

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no option of altering the questionnaire. All E-mails were sent in 1-month (July 2014). The survey was available for response for 2 months (July and August 2014) after which it was closed and data analysis was performed.

Data analysis was done with statistical software SPSS 9.0.0 (SPSS Inc. Chicago USA) for Windows. The idea was to report the data as descriptive summary of gender differences. Two-tailed Student's *t*-test was used to compare the continuous variables. Nominal data were analyzed with Chi-square test. A $P < 0.05$ was considered statistically significant.

Results

Invitation E-mails were sent to 7723 ophthalmologists. Out of these 5071 (65.7%) were male and 2652 (34.3%) were female. A total of 622 replies were obtained, of which 452 (8.9%) were from male and 170 (6.4%) from female ophthalmologists. Most of the responses were obtained from the ophthalmologists belonging to the age group of 30–39 years (male: 155; 35.3%; female: 81; 47.6%) [Fig. 1].

A total of 412 (91.2%) male and 145 (85.3%) female ophthalmologists were married ($P = 0.03$). Most of the male (368; 81.4%) and female (156; 91.8%) ophthalmologists completed their graduation in medicine between the ages 20 and 25 years [Fig. 2]. Postgraduation (PG) in ophthalmology was completed between the ages 26 and 30 years by majority of male (328; 72.6%) and female (132; 77.6%) ophthalmologists [Fig. 3]. When asked about post-PG fellowship; it was noted that there was no significant difference in number of male (142; 31.4%) and female ophthalmologists (53; 31.2%) who had undergone a long term post-PG fellowship (1-year or more) ($P = 1$).

To assess the academic activities of the respondents; questions regarding use of internet in clinical practice and number of publications in scientific journals were asked. It was noted that 268 (59.3%) male ophthalmologists and 106 (62.4%) female ophthalmologists used internet in their clinical practice ($P = 0.49$). Overall, reading clinical literature (570; 91.6%) was the most common use of internet among the respondents. Other uses of internet were browsing and registering for conferences (420; 67.5%), participating in online case discussions (360; 57.9%) and saving medical records of patients (157; 25.2%). Most of the participants of this survey did not have any publication in scientific journal (male: 215; 47.6% and female: 73; 43%) ($P = 0.26$). Number of male and female ophthalmologists having more than 10 publications was 51 (11.3%) and 18 (10.6%) respectively ($P = 0.71$). When asked about international conferences; 158 (35%) male and 49 (28.8%) female ophthalmologists responded that they travel to attend such meetings ($P = 0.15$). Most of the male (377; 83.4%) and female (131; 77%) ophthalmologists said that they spent < 3 h/day on academic activities ($P = 0.08$).

Questions on practice pattern revealed that 359 (77.4%) male ophthalmologists were working in urban area which included metropolitan cities, state capitals, district headquarters and other towns. Female ophthalmologists working in urban area constituted 135 (79.4%) of total. There was no significant difference between the two groups as far as place of work was concerned ($P = 0.59$). Number of male ophthalmologists working more than 9 h/day was 157 (34.7%) whereas this

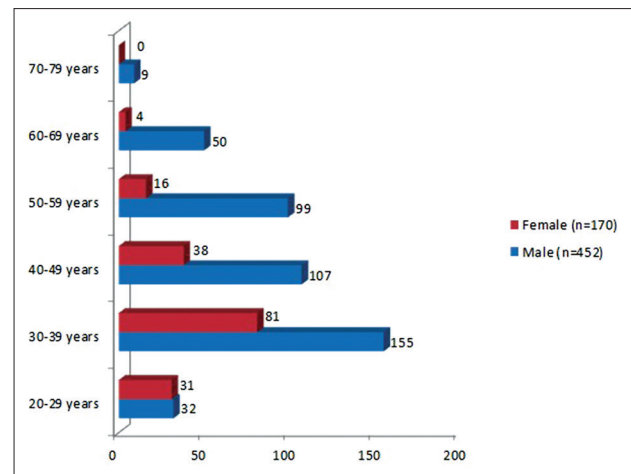


Figure 1: Age distribution of ophthalmologists participating in the survey

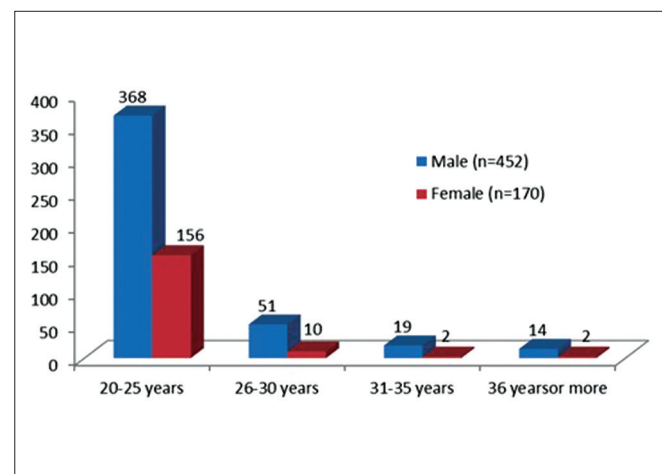


Figure 2: Age of completion of graduation in medicine (MBBS) by ophthalmologists

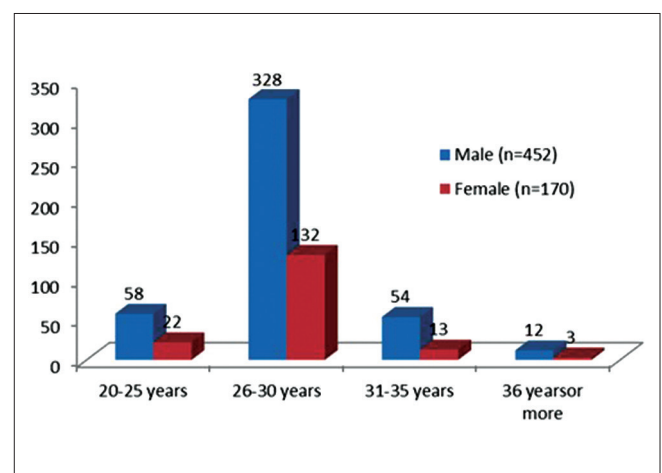


Figure 3: Age of completion of postgraduation in ophthalmology by ophthalmologists

number for female ophthalmologists was 41 (24.1%). This difference was statistically significant with a $P = 0.01$. Majority of male (355; 78.5%) and female (142; 83.5%) ophthalmologists

had 1 holiday in a week ($P = 0.16$). Questions about surgical activities revealed that most of the respondents (male: 111; 24.6% and female: 59; 34.7%) were performing surgeries on 2 days each week ($P = 0.01$). Further the number of ophthalmologists who operated more than 2 day a week was significantly higher for males (250; 50.9%) than females (56; 32.9%) ($P = 0.0001$).

Private practice was the most common mode of work for male ophthalmologists (150; 33.2%). Among female ophthalmologists 22 (12.9%) were doing private practice. This difference was significant with a $P = 0.00001$ [Table 1]. When asked about their area of work; most commonly selected fields for male ophthalmologists were cataract (358; 79.2%), glaucoma (252; 55.8%), medical retina (179; 39.6%) and cornea (157; 34.7%). Most common fields of work for female ophthalmologists were cataract (115; 67.6%), glaucoma (72; 42.4%), cornea (47; 27.6%), and pediatric ophthalmology/strabismus (38; 22.4%) [Fig. 4]. Number of male ophthalmologists earning more than Rs. 1 lakh/month was 229 (50.7%) whereas 55 (32.4%) female ophthalmologists replied that they earned in this category. This difference was statistically significant with $P = 0.00001$.

To know about the work experience, we asked about the leadership role to the participants. One hundred and ninety-eight (43.8%) male ophthalmologists said that they have been in a leadership role whereas 57 (33.5%) female ophthalmologist reported to be in leadership role ($P = 0.02$).

Table 1: Type of work of ophthalmologists

	Male (n=452) (%)	Female (n=170) (%)
Private self only	150 (33.2)	22 (12.9)
Private group/corporate hospitals only	125 (27.7)	51 (30)
Government hospital only	39 (8.6)	19 (11.2)
Teaching hospital only (government/nongovernment)	53 (11.7)	44 (25.9)
Research work only		1 (0.6)
Multiple types (combination of above types)	85 (18.8)	33 (19.4)

A total of 149 (33%) male and 29 (17%) female ophthalmologists termed their relationship with fellow ophthalmologists as "excellent" ($P = 0.0002$). Regarding relationship with operation theatre (OT) staff, 193 (42.7%) male and 57 (33.5%) female ophthalmologists termed it as "excellent" ($P = 0.04$). Further when asked about availability of career advancement opportunities to the ophthalmologists; 224 (49.6%) male ophthalmologists said that these opportunities were available to them without any bias. Among females, 76 (44.70%) said that there was no bias in availability of career advancement opportunities ($P = 0.26$).

The questionnaire asked the participants that did they face gender bias during their residency training in ophthalmology. In reply to this, 61 (13.5%) male and 38 (22.4%) female ophthalmologists reported to have faced gender bias during their residency training. This difference was statistically significant with a $P = 0.005$. Taking this question to work place, we found that 26 (5.8%) male and 21 (12.4%) female ophthalmologists reported to have faced cultural, ethnic or gender bias at work place ($P = 0.002$). We further asked that did the ophthalmologists ever found themselves in physically uncomfortable position due to their gender or were subject to physically uncomfortable gestures due to their gender at workplace. In response to this eight (1.74%) male and 21 (12.4%) female ophthalmologists said "yes." This difference was significant ($P = 0.00$).

In next section, questions were asked on work-family balance. When asked that do they curtail their work for family needs; 54 (12%) male and 44 (25.9%) female ophthalmologists replied as "often" ($P = 0.0001$). On being asked about the adjustment of work schedule with family needs; 160 (35.4%) male and 52 (30.6%) female ophthalmologists said they were "easily" able to make this adjustment (0.23). To the question, asking who was primarily responsible for running household, 103 (22.8%) male and 51 (30%) female ophthalmologists responded as "myself" ($P = 0.03$). In reply to the question, asking who was primarily responsible for upbringing of children, 20 (4.4%) male and 59 (34.7%) female ophthalmologists replied as "myself" ($P = 0.00$). We further asked that how frequently the respondents got time to spend with their family. In response "often" was the reply of 221 (48.9%) male and 80 (47%) female

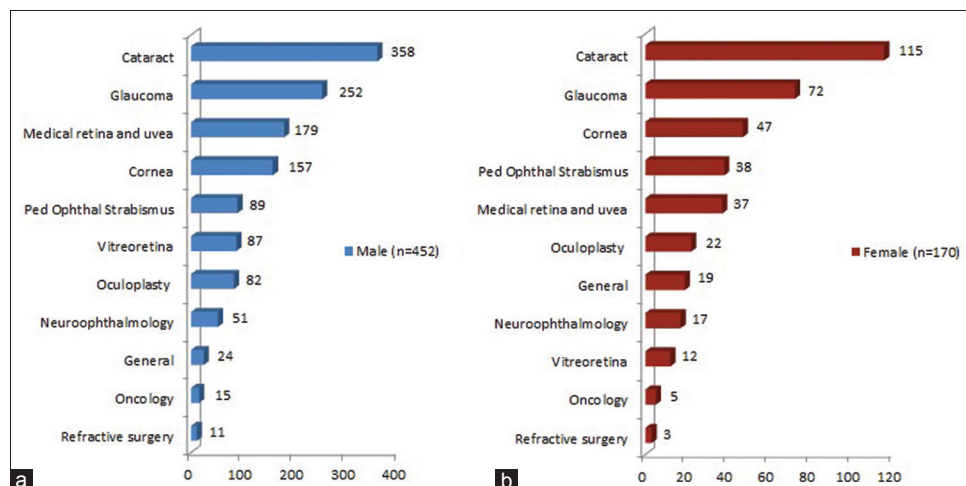


Figure 4: Fields of practice of male (a) and female (b) ophthalmologists

ophthalmologists ($P = 0.82\%$). We asked about the balance between professional and family life and in reply 262 (58%) male and 96 (56.5%) female ophthalmologists termed it as "satisfactory" ($P = 0.82$). Finally, we asked that did their colleagues support them in balancing their professional and family life. In response, 142 (31.4%) male and 62 (36.5%) female ophthalmologists stated "often" ($P = 0.23$).

Further we asked questions about sense of fulfillment among ophthalmologists. When asked that did they consider their profession rewarding; 252 (55.8%) male ophthalmologists and 78 (45.9%) female ophthalmologists replied as "yes" ($P = 0.02$). Taking this further they were asked that do they feel that their profession was as rewarding as the efforts they make; 229 (50.7%) male and 79 (46.5%) female ophthalmologist said "yes" ($P = 0.37$). On being asked that did they ever wish to be in a different profession "never" was the reply of 157 (34.7%) male and 63 (37%) female ophthalmologists ($P = 0.58$).

Based on their experience respondents were asked that would they recommend ophthalmology as a stream to fresh medical graduates. Two hundred and seventy-eight (61.5%) male and 112 (65.9%) female ophthalmologists said they would recommend ophthalmology to fresh male medical graduates ($P = 0.35$). Three hundred and eight (68.1%) male and 123 (72.4%) female ophthalmologists said that they would recommend ophthalmology to fresh female medical graduates ($P = 0.33$).

We asked the ophthalmologists that whether they would go for a short-term fellowship of less than year duration. In reply 401 (93.4%) male and 157 (95.3%) female ophthalmologists said "yes" ($P = 0.15$).

Discussion

Medical profession is witnessing an increasing number of women joining the field.^[1,5-8,13] Ophthalmology is no different from other medical specialties and it is encountering similar increase in the number of female practitioners.^[7] This trend is slowly changing the ophthalmology workforce. With our study, we have tried to assess the work-family balance and satisfaction among male and female ophthalmologists in India. This information is vital as work satisfaction directly affects the efficiency of health care delivery system of a country.^[14]

Most of the participating male and female ophthalmologists in our web-based survey worked in urban area. This reflects a national trend of congregation of medical personnel in urban quarters. Both male and female ophthalmologists usually took 1 off day from work every week. However significantly larger number of male ophthalmologists were working for more than 9 h a day compared to female ophthalmologists. Similarly larger numbers of male ophthalmologists were performing surgeries on more than 2 days of week than female ophthalmologists. These differences may mean that though female ophthalmologists were working same number of days every week as male ophthalmologists; they had less working hours daily and spent less hours in OT in a week. These findings are in keeping with the reports on working pattern of ophthalmologists from Canada and New Zealand.^[5,14] Study about female general surgeons in America had shown that the main reason behind lesser work hours for female surgeons was family and personal demands.^[15] This may hold true for ophthalmologists as well.

In our study, male ophthalmologists were more likely to have private practice than female ophthalmologists. In contrast female ophthalmologists were more likely to work in private group practice or private hospitals. This finding was different from those found by Danesh-Meyer *et al.* from New Zealand who have reported no difference between number of male and female ophthalmologists doing private practice.^[14] This difference in our study may mean that female ophthalmologists were yet to establish themselves as individual in the professional circle.

Hours spent on academic activities and numbers of academic publications were same for both male and female ophthalmologists. Male and female ophthalmologists were equally likely to travel for international conferences and use internet in clinical practice. Lesser number of female ophthalmologists reported to be in leadership role and earned in the highest monthly income range as asked in the survey compared to their male counterparts. Danesh-Meyer *et al.* have also reported less monthly income among female ophthalmologists.^[14] However they also report of equal likelihood of male and female ophthalmologists being in leadership role.^[14] In our study, females ophthalmologists were less likely to be in leadership role. However, they did not report of bias in availability of career advancement opportunities to them. This can be explained by the fact that female ophthalmologist did report of significant cultural, ethnic and gender bias at workplace which may be dithering them from utilizing the career advancement opportunities available to them. Added to this, a significant number of female ophthalmologists also reported of having been subjected to physically uncomfortable gesture or being in physically uncomfortable position due to their gender at workplace. These workplace circumstances may be preventing them from utilizing their potential to the maximum extent.

Female ophthalmologists among our survey participants were more likely to be responsible for running the household and upbringing of children than their male counterparts. Both male and female ophthalmologist termed work-family balance as "satisfactory" and reported to "often" have enough time to spend with family. However female ophthalmologists also reported that they were "often" curtailing their work schedule for family needs. Study about general surgeons by Yutzie *et al.* had revealed similar pattern where female general surgeons reported to curtail their working hours for their family needs.^[15] This trend seems to hold true for ophthalmology as well.

Similar number of male and female ophthalmologists responding to our survey reported that ophthalmology as a stream was rewarding. Further there was no difference among male and female ophthalmologists when they were asked whether they would suggest ophthalmology to fresh medical male or female graduates. In light of the other findings of this study this may mean that ophthalmology as a stream was seen as rewarding by both male and female ophthalmologist but female ophthalmologists were overstretching to balance work and family. They earned less than male ophthalmologists and were having less than gender neutral scenario at workplace.

There was felt need of skill enhancement measures among ophthalmologists of both gender participating in this survey as an overwhelming proportion was willing to undergo short

term fellowships to learn newer techniques. This data from our study may guide various training facilities in country to program short-term skill enhancement training for practicing ophthalmologists.

Our study has few limitations. It was a web-based survey where participation may be limited to those using internet on a regular basis. To counter this, we had run the survey for 2 months so that more and more and not-so-frequent internet users can also be reached and invited to participate. Though the participation rate of <10% is not ideal; it is identical to similar web based survey on American and European ophthalmologists by Stewart *et al.* who had reported a participation rate of 14% and 16% respectively.^[16] We agree that a personal interview or a postal survey would probably yield a higher participation rate and provide more comprehensive profile of practice and personal circumstances of male and female ophthalmologists. However being the first such study about ophthalmologists in India; our study still provides an important data on ophthalmology workforce in country.

The present study highlights that ophthalmology was considered rewarding specialty by both male and female ophthalmologists. However female ophthalmologists were facing bias at workplace and were overstretching themselves to balance the work and family. These issues may need to be tackled to ensure work satisfaction of the entire ophthalmologist workforce in the country in order to achieve optimum ophthalmic health care delivery.

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