

## Original article

# Gender equity in eye health of Nepal: A hospital-based study

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### Abstract

**Introduction:** There is a lack of literature examining the impact of gender on access to eye care in developing countries.

**Objective:** To assess the differences in access to eye care between females and males, in the urban hospital setting and in rural outreach clinics.

**Materials and methods:** A retrospective study was designed to review the patients who sought eye care at a tertiary level eye care institute and its rural outreach clinics from 2006 to 2009 in Nepal. Data were retrieved from clinical records.

**Results:** In the hospital, females accounted for 50.8% of patients receiving outpatient care and 48.3% of patients receiving surgical care. In rural outreach clinics, females accounted for 56.1% of clinic patients and 51.5% of patients undergoing surgery. Fewer girls than boys aged 0-14 years (44.3%) sought clinical care at the hospital.

**Conclusion:** Females account for approximately half of the hospital eye care services in Nepal. More females seek care at rural outreach clinics than at the urban hospital. However, given the female burden of disease in Nepal, there is still much improvement to be made in this area of care.

**Key words:** access, blindness, gender, equity, eye health, Nepal

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### Introduction

Globally, women account for two of every three blind people (Abou-Gareeb *et al*, 2001). In many low- and middle-income countries around the world, women have less access to eye care, particularly cataract surgical coverage (Lewallen *et al.*, 2009). Inequality between the genders also appears to affect children, with lower rates of access to eye care documented in girls compared to boys in some African countries (Bronsard & Shirima, 2009).

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The impact of gender on access to eye care in the Nepalese setting has not been extensively described in existing literature. Thus, it is important to detect and characterize any differences in access to eye care between the sexes in order to inform public health strategy in the interests of equitable care for all. The Nepal Gender and Eye Health Group (NGEHG) conducted a study reviewing the status of the gender and eye health in Nepal. They found that the gender disparity was profound in utilization of services and pervasive in all regions of Nepal (Upadhyay, 2010).

The British Columbia EIO (Epidemiologic and International Ophthalmology) was the first

organization to undertake a project focused on reducing gender inequity in healthcare in 2000. Gender focus service especially gender and blindness was initiated by British Columbia Centre for in 2000. Since then, various organizations have committed to improving the gender gap in the world, including Nepal. In Nepal, Eye health care is mainly supported by non-government or private organizations. Community based interventions have been implemented in some parts of the country to reduce the gender gap (SEVA foundation, Report 2005). A change in the prevalence of female blindness in the Lumbini Zone, as recorded in a rapid assessment of avoidable blindness survey, suggests that these interventions are having an effect on female populations.

In a country where 80% of its land is inaccessible by road, it is important to look for differences in access for men and women across urban and rural settings.

The Tilganga Institute of Ophthalmology (TIO) is a tertiary eye care centre in Kathmandu, the urban capital city of Nepal. It also provides eye care to rural areas outside the Kathmandu Valley through its community eye hospital, community eye centres, satellite clinics, outreach microsurgical eye clinics

(OMECS) and screening eye clinics. It is a not-for-profit organization that treats all patients regardless of their ability to pay.

### Subjects and methods

A retrospective study was conducted of all 631,981 patients accessing eye care at the TIO and its outreach clinics, from 2006 to 2009.

Age and gender data were collected from the electronic records of the TIO. Data were collected in special sheet designed for this purpose. Descriptive analysis was performed using a Microsoft Excel 2007.

Ethical approval was granted by the Institutional Review Committee of Tilganga Institute of Ophthalmology and researchers agreed to uphold all ethical aspects of the Helsinki declaration.

### Results

At the TIO site in Kathmandu, 279,392 of the 549,490 patients (50.8%) accessing outpatient care were female. 25,138 of the 52,188 patients (48.2%) receiving surgical care were female. The proportion of the presentation at the outpatient department and operation was nearly comparable in all years between 2006 and 2009 at the TIO (Table 1).

**Table 1**  
**Utilization of service at TIO (urban setting)**

Year	Clinic					Surgery				
	Male		Female		Total	Male		Female		Total
	N	%	N	%		N	%	N	%	
2006	60557	49.4	62018	50.6	122575	4384	50.3	4325	49.7	8709
2007	68501	49.8	69111	50.2	137612	6901	52.1	6350	47.9	13257
2008	67000	48.9	70092	51.1	137092	7470	52.5	6768	47.5	14238
2009	74040	48.6	78171	51.4	152211	8289	51.9	7695	48.1	18984
Total	270,098	49.2	279,392	50.8	549,490	27,050	51.8	25,138	48.2	52,188

In rural areas, 19,838 of 35,331 patients presenting to outreach clinics (56.1%) were female. Gender disaggregated data were not available for outreach clinics from 2006-07. Instead, analysis was based on available data from 2008-09. 6,278 of 12,182 patients presenting for outreach surgical procedures

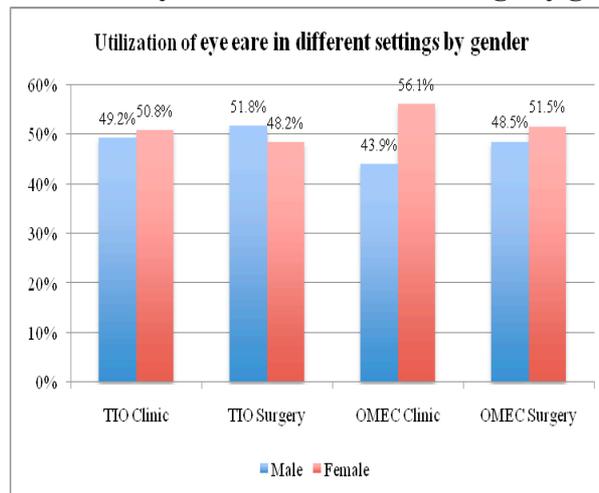
were female (51.5%), the majority of which were cataract removal procedures. Female accounted for roughly one-half of clinical and surgical services provided at out-reach clinics, except in 2007, when they accounted for 54.1% of all surgeries (Table 2).

**Table 2**  
**Utilization of service in outreach clinics (rural setting)**

Year	Clinic					Surgery				
	Male		Female		Total	Male		Female		Total
	N	%	N	%		N	%	N	%	
2006	-	-	-	-	-	2018	49.3	2077	50.7	4095
2007	-	-	-	-	-	1471	45.9	1733	54.1	3204
2008	6986	42.8	9341	57.2	16327	1226	49.9	1232	50.1	2458
2009	8507	40.1	10497	49.5	19004	1189	49.0	1236	51.0	2425
Total	15,493	43.9	19,838	56.1	35,331	5,904	48.5	6,278	51.5	12,182

In the urban setting, females accounted for approximately half of all presentations to clinical and surgical eye care, as well as for surgical care at outreach programs (Figure 1). Females (56.1%) accounted for more presentations to clinical care at rural outreach clinics than males (43.9%).

**Figure-1**  
**Utilization of eye care in different settings by gender**

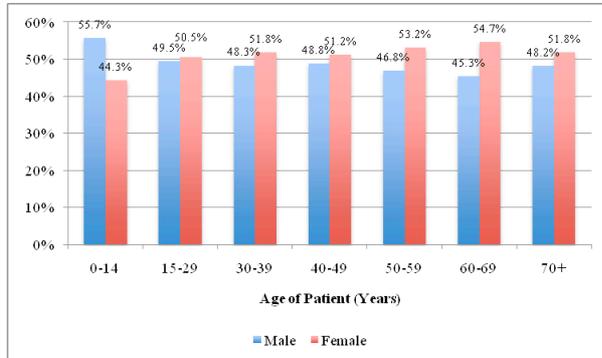


When disaggregated by age, females slightly outnumbered males in presentations to urban clinics in all age groups except for 0-14 years. In this youngest age group, fewer girls (44.3%) presented to clinical care than boys (55.7%) (Table 3 and Figure 2).

**Table 3**  
**Utilization of service at TIO by age and gender**

Age group	2006			2007			2008			2009		
	M (%)	F (%)	T (%)	M (%)	F (%)	T (%)	M (%)	F (%)	T (%)	M (%)	F (%)	T (%)
0-14	55.8	44.2	14.7	55.4	44.7	13.7	55.7	44.3	13.8	55.9	44.1	14.7
15-29	50.0	50.0	27.9	50.2	49.8	26.6	48.9	51.1	26.2	48.9	51.1	25.7
30-39	49.0	51.0	12.3	48.9	51.1	12.5	47.4	52.6	12.3	47.7	52.3	12.5
40-49	49.1	50.9	11.0	50.2	49.8	11.7	48.1	51.9	11.9	47.7	52.3	12.1
50-59	47.1	52.9	10.7	46.4	53.6	11.4	47.3	52.7	11.5	46.5	53.5	11.6
60-69	44.4	55.6	12.1	46.8	53.2	12.5	45.4	54.6	12.7	44.7	55.3	12.2
70+	48.0	52.0	11.3	49.3	50.7	11.6	48.3	51.7	11.7	47.2	52.9	11.2
Total	49.4	50.6	100.0	49.8	50.2	100.0	48.9	51.1	100.0	48.6	51.4	100.0

**Figure 2**  
**Distribution of service user by gender and age**



## Discussion

This study is important when considering the impact of gender on access to eye care in Nepal. The most striking finding is that, at face-value, access to eye care in Nepal appears equal for males and females – it may even appear that women in rural areas have greater access to clinical care than men. However, it is likely that females still do not have adequate access to eye care services. It has recently been shown that the prevalence of blindness is higher in Nepali females than in males. The higher prevalence rates in females can be explained in two ways. Firstly, given an equal incidence of disease between the genders, there are more females than males in Nepal, though this is not reflected by data from the Central Bureau of Statistics in the 2001 census. Secondly, given equal numbers of females and males, females have a higher incidence of ocular disease. One possible biological mechanism is the longer female lifespan, given that pathology such as cataracts, glaucoma and macular degeneration are more common with advancing age and barriers to proper eye care services.

In light of the increased prevalence of blindness in females, representing the end-stage of eye pathology, access to eye care can only be considered equal if women consistently outnumber men in presentations. If, as the RAAB study suggests, the prevalence in females is up to 2.5 times higher, there must be a 2.5:1 female-to-male ratio

in presentations to care in order to achieve gender parity.

It is interesting that in the outreach clinics to rural areas, females accounted for more presentations than males (56.1% compared to 43.9%). It is possible that when services are provided in the community setting, rather than in the hospital setting, women are more likely to seek care because they are normally by social restrictions on mobility and, preventing them from seeking care at the hospital. In light of this, rural outreach clinics should be encouraged and strategies should be implemented to increase female awareness of such programs, for example, reaching mothers through local school and other community networks.

With regards to children, girls aged 0-14 years presented to clinics at TIO less commonly than boys (44.3% compared to 55.7%). It may be possible that this is related to a higher incidence of disease in boys. Ocular trauma as a result of risk-taking behaviours, is known to be more common in young men than women (May *et al.*, 2000). However, it is also possible that girls are discouraged from or denied access to health care due to their lack of social status – in effect, the ‘double disadvantage’ of being female and young which has been documented in other health care settings (Bronsard & Shirima, 2009).

This study provides information on the impact of gender on access to eye care in Nepal. It is of great importance as gender inequity is a possible contributing factor to the continuing high prevalence of blindness in Nepal, in spite of dramatic improvements in eye health infrastructure in recent years.

## Conclusion

Utilization of eye health care service by females accounts for approximately half of presentations to hospital eye care in Nepal. Girls aged 0-14 years presented to clinical care less commonly than boys. If the higher prevalence of ocular disease and blindness in women is taken into account, it is likely

that women in Nepal are underserved. Encouragingly, a higher female access to care is seen at rural outreach clinics, when services are taken from the hospital into the community setting.

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