

## A study of ocular morbidity of patients attending a satellite clinic in Bhaktapur, Nepal

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### ABSTRACT

A community based retrospective study was conducted in the satellite clinic of Nepal Medical College Teaching Hospital at Jhaukhel VDC of Bhaktapur, from March 2007 to February 2008. A total of 395 patients were examined, where males comprised of 135 patients (32.9%) and females 265 patients (67.1%). The common ocular diseases observed in this study were refractive errors 22.5%, age related cataract 17.5%, extra ocular diseases like conjunctivitis 14.9%, conjunctival degenerations 10.8%.

**Keywords:** Community, morbidity, ocular diseases.

### INTRODUCTION

Disease pattern is in a state of constant flux, over a period of time. A community based study can be more precise in representing the true picture of the disease pattern in the population rather than a hospital based study. The selection bias associated with the latter one is more common and not a true sample representative of the community.

Jhaukhel Village Development Committee (VDC) is one of the 16 VDCs in Bhaktapur: the smallest district of Nepal in terms of land area and one of the three districts of Kathmandu valley.

A community satellite health centre, run by Nepal Medical College Teaching Hospital has been in operation in Jhaukhel, since 2000 to cater services to the health needs of the people living in the VDC. Specifically, general checks-up and eye services are provided at this clinic. Jhaukhel VDC comprises of 9 wards, with a total population of about 7000.

This retrospective study attempts to examine the pattern of ocular diseases in the rural set up. Findings pertaining to the pattern of ocular diseases in the community will be compared with that of the hospital based studies.

Though some hospital based studies on pattern of ocular diseases have been conducted in Nepal<sup>1,2</sup> in the past, there has been no reports of such community based studies, hence attempts are made to find out whether the pattern of ocular diseases at the community were different from that of the hospital set up. This study would also help to generate baseline information, which will be beneficial for program formulation and planning of community based activities on ocular services of Nepal Medical College and Teaching Hospital. Also, it

can be an impetus for a more extensive research in the days to come.

### MATERIALS AND METHODS

All patients who attended the eye clinic at Jhaukhel Community centre from March 2007 to February 2008 were enlisted for this study. The patient data was collected from the OPD register at the clinic and analyzed retrospectively. A total of 395 patients attended the eye clinic, which constituted the sample size of the study.

Personal observation form was used to collect the data, which comprised of detail history and evaluation of the patients. Visual acuity was evaluated using the Snellen's chart for the literates and illiterate E chart for the illiterates. Torchlight was used to examine young children.

Anterior segment was examined with torchlight and magnifying loupe if and where necessary. The fundus was examined with the direct ophthalmoscope. A fundus evaluation under mydriasis was done in relevant cases.

Difficult cases which required examination under the slit lamp were referred to NMCTH for further evaluation and management. Such cases were not included in the study.

### RESULTS

A total of 395 patients were examined, out of which 130 (32.9%) were males and 265 (67.1%) were females. Patients examined were from all age groups, out of which maximum number of patients were females and above 61 years of age. The number of female patients was more than males in almost all age groups (Table-1).

Table-2 shows some of the diseases that were observed,

the most prevalent being refractive errors accounting for 22.5%, followed by cataract 17.45%, conjunctivitis 14.9%, and conjunctival degenerations (pterygium and pinguecula) 10.8% respectively. Posterior segment diseases seen were Diabetic retinopathy 1.0% and age related macular degenerations 2.0%. Trauma related conditions were mainly foreign bodies, subconjunctival haemorrhage and lid injuries.

It was observed that refractive errors and conjunctivitis were seen more in the younger age groups, whereas cataract and posterior segment diseases were seen in the older age groups.

**DISCUSSION**

The study shows that females (67.1%) were more in attendance than males (32.9%) at the eye clinic at this centre. This is because of the proximity of the centre to their homes, which enables the females to seek medical help on their own without being dependent on their spouses or other family members. Similar results showing a female preponderance was seen in the National Blindness Survey<sup>3</sup>, where the survey took place at the rural areas thereby enabling the females for easy access to eye care services. This is different from most hospital based studies where there is a male preponderance.<sup>1,2</sup>

Refractive error was the primary ocular morbidity accounting for 22.5%, followed by cataract 17.4% and extra ocular diseases, like conjunctivitis 14.9%, conjunctival degenerations (pterygium and pinguecula) 10.8%, dry eyes 4.0% and keratitis 0.7%. Posterior segment diseases seen were Diabetic retinopathy 1.0% and age related macular degenerations 2.0%.

Since, this study incorporated subjects from all the age groups, there were more patients with refractive error than that of cataract. Similar studies conducted in Central

**Table-2:** Pattern of ocular diseases at Jhaukhel satellite centre

Disease	No of patients	(%)
Lid related: Entropion	10	2.5
Ectropion	3	0.7
Stye/chalazion	5	1.3
Conjunctivitis	59	14.9
Pterygium/Pinguecula	43	10.9
Refractive errors	89	22.5
Strabismus	03	0.7
Episcleritis	02	0.5
Dry Eyes	16	4.0
Watering eyes	6	1.5
Keratitis	3	0.7
Corneal opacities	3	0.7
Cataract	69	17.5
Pseudophakia	38	9.6
Glaucoma suspect	4	1.0
Retina related		
Diabetic retinopathy	4	1.0
Retinitis pigmentosa	2	0.5
ARM D	8	2.0
Trauma related: FB	5	1.3
Subconj hge	3	0.7
Lid injury	2	0.5
Miscellaneous	5	1.3
NAD	10	2.5
Under Diagnosis	3	0.7

India by Singh MM showed that refractive errors accounted for 40.8%, followed by cataract 40.4%, aphakia 11.1% and pterygium 5.2%.<sup>4</sup> In our study conjunctival degenerative conditions (10.8%) like pterygium and pinguecula were seen in a large number of patients. This maybe due to the fact that the majority of these patients were farmers who worked in the dry and dusty environment.

Similar findings were seen in studies conducted in a rural outreach clinic in Kaduna state in northern Nigeria, where cataract was seen in 22.9% and anterior segment eye infections accounting for 19.1%.<sup>5</sup> Another study carried out in rural Nigeria to identify the common ocular problems in young adults showed that refractive errors (41.2%) were the most common condition followed by allergic conjunctivitis (8.2%) and pterygium (8.2%).<sup>6</sup> Cataract (48.0%), glaucoma (21.1%), refractive errors (12.4%) were some of the ocular problems seen among

**Table-1:** Age and sex distribution of patients at Jhaukhel Satellite Centre

Age (in years)	Male		Female	
	No	(%)	No	(%)
< 10	13	10.0	6	2.3
11-20	24	18.5	27	10.2
21-30	9	6.9	35	13.2
31-40	9	6.9	29	10.9
41-50	14	10.8	44	16.6
51-60	18	13.8	43	16.2
>61	43	33.0	91	34.3
Total	130		265	

rural dwellers in a study conducted in South-western Nigeria.<sup>7</sup>

In a similar survey of Ophthalmic conditions in rural Lesotho, it was seen that conjunctivitis, refractive errors, cataract and glaucoma were the common conditions presenting in the community.<sup>8</sup> A study carried out to find out the avoidable visual impairment among the elderly population in a slum in Ethiopia showed cataract as the most prevalent disease accounting for 43.1%, followed by Glaucoma (10.0%) and extra ocular diseases (8.8%), respectively.<sup>9</sup>

Ocular problems in a referral centre in Niger delta region of Nigeria showed that refractive errors, glaucoma, conjunctivitis and ocular trauma were the common problems.<sup>10</sup>

A clinic based survey of several rural eye clinics in Cambodia showed that cataract, refractive error, anterior segment diseases, glaucoma were the common diseases seen in the community.<sup>11</sup> Conjunctivitis 32.9%, cataract 14.7%, ocular injuries 12.8% and refractive errors 9.9% were some of the diseases identified at an out patient clinic in Ibadan, Nigeria.<sup>12</sup> A study of eye diseases in Gaza showed cataract, refractive errors, trachoma, keratitis, ocular trauma as the common causes of ocular morbidity.<sup>13</sup>

The main causes of ocular morbidity seen in this study were refractive errors, cataract, anterior segment diseases like conjunctivitis, conjunctival degenerations, dry eye syndromes and keratitis. There was a female preponderance observed in this study.

This study shows that refractive errors, cataract, extra ocular diseases and post segment diseases were the common causes of ocular morbidity. Refractive errors and cataract were the most common causes of visual impairment, while blindness was due to cataract, post segment diseases. Visual impairment due to refractive

errors can be largely prevented by glasses of appropriate power and blindness due to cataract is curable by surgery.

A more extensive survey would help in generating the updated information about the status of ocular morbidity in the community in general and the prevalence of blindness in particular.

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