

*Original Article***LOW VISION CARE FACTS AND FIGURES IN A TERTIARY LEVEL EYE HOSPITAL IN WESTERN REGION OF NEPAL****RRajesh Pradhan*, Anita Ale******Abstract****Background**

The global prevalence of low vision is estimated to be 68 million. No such facts or figures are as yet available for Nepal.

Aims

To evaluate the important causes of low vision, demographic distribution of low vision, status of low vision care and utilization of services.

Methods

Retrospective case study of patients attending low vision clinic. Detailed clinical examination and low vision assessment was done.

Results

Among 138 low vision patients, male female ratio was 1.2:1. The mean age of the patient was 15 years and 90.1% of patients were below 30 years. Among the clients, 66% were students. The most common causes of low vision were surgical aphakia/pseudophakia with amblyopia (21%), refractive error and amblyopia (14.5%) and optic nerve disorders (8.7%). Visual improvement with optical LVDs was particularly beneficial for near tasks.

Conclusion

Majority of low vision clients were young people and the most important cause being lens related like surgical aphakia/pseudophakia which should not be overlooked. Low vision problems in the region and Nepal can be avoided by improving eye care services; starting from development of trained manpower, proper management protocols, continuing medical education programs, community eye health programs, timely referral and proper management.

Keywords

BCVA- Best corrected visual acuity, LVDs- Low vision devices

Introduction

Functional definition of low vision is; "A person with low vision is one who has impairment of visual functioning even after treatment and/or standard refractive correction, and has a visual acuity of less than 6/18 to light perception in the better eye, or a visual field less than 10 degrees from the point of fixation, but who uses, or is potentially able to use, vision for the planning and/or execution of a task."²

* Assistant Professor, Department of ophthalmology, Manipal Teaching Hospital, Pokhara, Nepal

** Ophthalmic assistant/low vision service provider, Himalaya eye hospital, Pokhara, Nepal

It is estimated that globally 68 million persons require low vision care and are likely to benefit from such care.³ No such facts or figures are as yet available for Nepal. Low vision department was established in Himalaya Eye Hospital in November 2000.

Materials and Methods

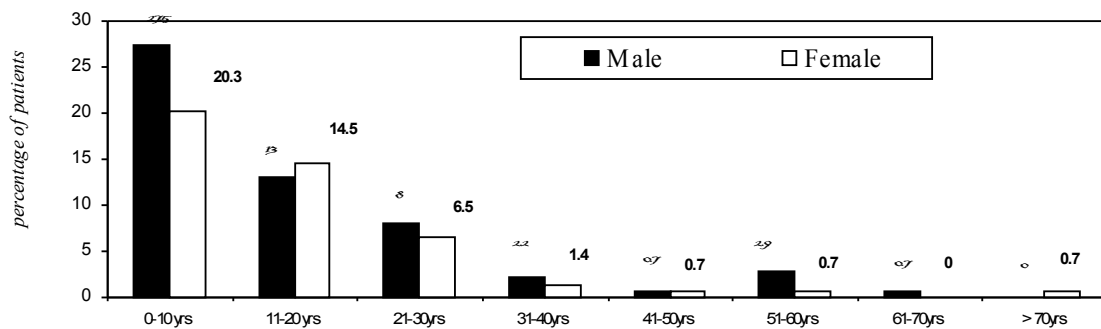
Records of patients evaluated in the low vision department of the hospital from January to December 2004 were reviewed and all the cases included in the study. The patients evaluated in the community (outreach activities) are not included in the study. All patients underwent counseling, detailed

examination by ophthalmologist and low vision assessment and provision of LVDs by optometrist/low vision service provider. Statistical analysis of data was done with SPSS Version 10.0 software.

Results

A total of 138 patients were evaluated during the period. There were 76 males and 62 female patients (male female ratio of 1.2:1). The mean age of the clients was 15 years. Among the low vision patients 47.6% were in the age group 0-10 years while 90.1% of the patients were below 30 years. The age and sexwise distribution of low vision clients is shown in fig. 1 below.

fig 1: Age and sexwise distribution of low vision patients



Among the low vision clients 66% were students and 13.9% were preschool children.

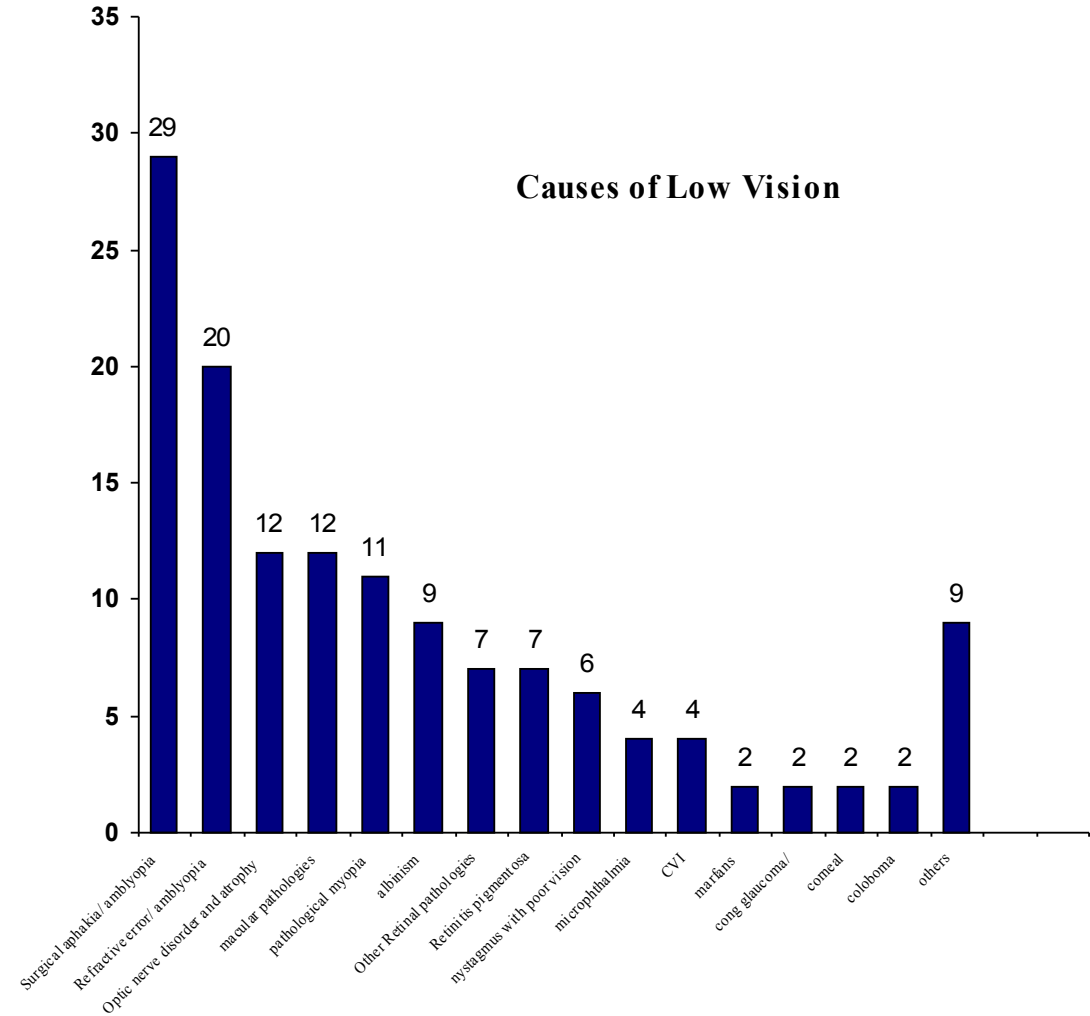
The reading abilities of the patients on presentation are shown in fig. 2 of these, 93(67.4%) clients were able to read large prints, 6 (4.3%) clients were using Braille and Braille + print each respectively.

Among the referred clients, 49 (35%) needed low vision devices, 72 (52%) clients did not require a new device, only their present distance correction was refined and were advised non optical methods like extra illumination, larger prints etc. No improvement was seen in 6 (4.34%) and the remaining 11 (7.9%) who were very young

clients were given counseling and asked to follow up later.

The causes of low vision in the hospital are as shown in fig. 3. The most common ocular condition presenting to low vision clinic

were; Surgical aphakia/pseudophakia with amblyopia 29(21%), Refractive error /amblyopia 20 (14.5%), Optic nerve disorder/ atrophy and macular pathologies both 12(8.7%) and Pathological myopia 11(8%).



Commonly used LVDs were spectacle magnifiers. The presenting visual acuity and best 27(55.1%); hand and stand magnifiers 13(28.57%) corrected visual acuity for distance and near dome magnifiers 7(14.3%) and illuminated hand/ vision task is as shown in table 1. magnifiers 1 (2.04%).

Table 1. Presenting and BCVA for near and distance

VISION	PRESENTING VISUAL ACUITY	BCVA AFTER LOW VISION ASSESSMENT
<i>Distance vision</i>		
NPL/PL	1 (0.7%)	1 (0.7%)
<3/60	43 (31.2%)	14 (10.1%)
3/60- <6/18	83 (60.1%)	108 (81.15 %)
LV correction not possible	11 (7.97%)	11 (7.97%)
<i>Near vision</i>		
NPL/PL	1 (0.7%)	1 (0.7%)
>2.5M (very large prints)	47 (34.0%)	6 (4.30%)
>1.5-2.5M (N 20)	33 (23.90%)	23 (6.60%)
<1.5M (N 12)	41 (29.70%)	90 (66.66%)
LV correction not possible	16 (11.59%)	16 (11.59%)

Discussion

The two important causes of low vision in the study are surgical aphakia/pseudophakia with amblyopia and refractive error/amblyopia. These essentially are avoidable blindness. It also sheds some light on the inadequacies in the management of paediatric cataracts in the region. Refractive error with or without amblyopia is the second common cause of visual impairment. It is a significant public health problem. There is need for further studies, to develop awareness in public and to devise strategies to address the problem.

Another interesting finding in this study is that 90.1% of low vision patients are below 30 years of age and 66.4% patients were students. The impact of low vision on these young patients and their families can be profound. They often experience financial, psychological, and social problems. It is an economic burden to the society and government, too.

Western literatures site the most common cause of low vision as age related macular degeneration, diabetic retinopathy and glaucoma which is not consistent with our study. It could be due to several factors, like shorter average life span, considering it an elderly disease or incurable problem by the family and health care professionals, leading to less referral to low vision department.

Visual improvement with optical LVDs was particularly beneficial for near tasks.

Almost 34% clients on presentation could read only large prints (>2.5 M) and with best correction 65.20% were able to read print size <1.5 M (N 12).

Noteworthy to mention is that 43 (31.2%) patients were blind according to WHO standards. After correction 29 (21.01%) of them had improved their near vision with LVDs and could do near work.

Conclusion

Majority of low vision clients were young and the most important cause being lens related like surgical aphakia/pseudophakia which should not be overlooked. Low vision problems in the region and Nepal can be avoided by improving eye care services; starting from development of trained manpower, continuing medical education programs, community eye health programs, timely referral and proper management.

Many low vision clients do not require LV devices but proper refraction and physical adjustments like extra illumination, larger prints etc. The low vision patient must be motivated to participate in low vision evaluation and management. There is very little awareness about low vision and rehabilitation and barriers exists that result in the person with low vision not hearing of or accessing low vision services.

References

1. Pararajasegaram R., Low vision care: The need to maximize visual potential, Community eye health, Vol 17, No. 49, 2004
2. Management of Low Vision in children, Report of a WHO Consultation meeting, Bangkok, 23-24 July, 1992. WHO/PBL/93.27.
3. Asia Pacific Low Vision Workshop. Report of a workshop. Hong Kong, 28-30 May, 2001. WHO/PBL02.87. Available online at http://whqlibdoc.who.int/hq/2002/WHO_PBL_02.87.pdf
4. K.C. BK, Thapa HB, Gurung S et. al., Hospital based study on causes of low vision and patient preference for different types of low vision devices, Journal of institute of medicine, 29:2, 19-24, August 2007
5. Pollard TL, Simpson JA, Lamoureux EL, Keefe JE, Barriers to accessing low vision services, Ophthalmic Physiol Opt, 2003; 23: 321-27.
6. van Rens, Ger, de Boer MR, Langelaan M, Jansonius NM, Dutch evidence-based guidelines on the referral of visually impaired persons to low vision services, Vision 2005 conference.
7. GN Shuttleworth, A Dunlop, JK Collins, CR James, How effective is an integrated approach to low vision rehabilitation? British Journal of Ophthalmology, 1995
8. TH Margrain, Helping blind and partially sighted people to read: the effectiveness of low vision aids, British Journal of Ophthalmology, 2000
9. GL Goodrich, EB Mehr, RD Quillman, HK Shaw, JK, Training and practice effects in performance with low-vision aids: a preliminary study, Am J Optom Physiol Opt, 1977