Bridging the Gap between Medical Low Vision and Visual Rehabilitation Services in Developing Nations

Senjam Suraj Singh, Praveen Vashist
Department of Community Ophthalmology, Dr. R P Centre Ophthalmic Sciences AIIMS New Delhi, India

Abstract
The majority of low vision service being provided in the developing countries is of mono-disciplinary, under which low vision aids are prescribed, without having much of visual rehabilitation services. Further, providing visual rehabilitation activities needs all ranges of skilled professionals, well-equipped infrastructure, and financial support. Such resource intensive service is not appropriate for developing nations. Therefore, an alternative strategy needs to be developed to ensure the continuum of care for the person with a visual disability. The present paper describes setting up a networking model of low vision service which acts as a bridge to ensure visual rehabilitation service while managing low vision patients.

Keywords: low vision, low vision rehabilitation, networking model

Introduction
Simply, prescribing and dispensing optical or non-optical low vision aids is not sufficient to manage low vision patients. A multidisciplinary approach which includes all ranges of professionals should be employed to manage low vision patients. In developed countries such approach is adopted. This approach needs a team consisting of ophthalmologists, optometrists, adaptive trainers, occupational therapists, orientation and mobility trainers, social workers and orthoptists. This implies the need of lots of resources in the form of manpower, financial support, well-equipped infrastructure, multiple aids with lots of training as well as time. Such approach is, therefore, not appropriate for the low and middle-income countries where resources are limited. It is highly essential to seek alternative and cost effective strategies to care for low vision patients without compromising the quality of services. As reported in many studies, majority of low vision services in developing nations are located in tertiary level institutions. Most of them rely on the provision of optical and non-optical low vision aids without giving much attention to the rehabilitation and socio-environment aspects of the patients. Therefore, a suitable strategy, must be designed, to be able to manage both medical as well as social aspects of low vision individuals. This paper describes one such strategy in the form of setting up a networking model aimed at the tertiary eye care centre to tackle the problems of low vision patients. Eye care facilities are usually the first point of contact by the people with visual impairment and disability. If a system of networking is developed between eye care facilities and social organizations working for people with visual disability, the much-needed continuum of care can be maintained, thereby help in improving the quality of life.

Setting up Networking Model of Low Vision Service
Visual rehabilitation services can be provided at each level of eye care facility. But, the tertiary level eye institutions should be the apex centres for such service. Service provided at the tertiary level should be comprehensive, well equipped and manned by well trained professionals. A wide range of equipment and devices, all types of adaptive training facilities, education, counseling and good linkage and referral system with community-based rehabilitation centres should be in place. The following six basic steps can be considered, to establish a successful and effective low vision and rehabilitation service, at a tertiary care eye institute.

1. Needs assessment
2. Situation analysis of the available resources
3. Capacity building and training
4. Equipment and devices procurement
5. Networking with other organizations
6. Quality assurance and Monitoring

1. Needs Assessment
This is the first step while planning to set up low vision services in any institution. It will help in determining the demand for services as a whole. This also highlights the provisional scope of services. There may be a need for separate pediatrics service. The need can be established by the following strategies:

Direct methods: This is direct hospital records analysis. For example, retrospective analysis of hospital records, the number of disability certificates issued, annual ocular morbidity report and other subspecialty records, if any. It will highlight the ongoing magnitude of low vision in the hospital and the proportion of patients that can potentially benefit from low vision services.

Indirect methods: Data from indirect methods supplements the direct. It shows the regional or provincial or district level burden of low vision. For instance, national blindness survey, a survey on visual impairment. It helps in the planning of long term community oriented low vision services.
2. Situation Analysis
The next step in the planning is to conduct a situation analysis of all the available resources inclusive of manpower, physical infrastructure, assessment equipment or any other devices. Persons like ophthalmologists, optometrists, occupational therapists, low vision therapists, rehabilitation therapists are important in providing low vision and rehabilitation services. Situation analysis will help in assessing the gap between the needs and existing resources.

3. Capacity building and training
One of the critical elements in the provision low vision service is the procurement of low vision ophthalmic equipment and devices. Initially, the standard list of equipment and devices for tertiary eye care centres prepared by Vision 2020 Right to Sight, low vision group, can be used. Later on expansion may be done as per need and demand for services. Devices can be purchased from hospital resources or support from any external funding agency. Low-cost devices and technology developed indigenously can be ordered. There are many agencies that assist in establishing low vision services, for example, Sightsavers International, Christoffel Blinden Mission, Lighthouse International New York etc. The Low Vision Resources Centre, Hong Kong supplies devices and assessment equipment at an affordable cost to the developing countries. Government grant, if any, can be applied, for example the Government of India scheme of assistance to disabled persons (ADIP) for the purchase/fitting of aids/appliances (ADIP scheme). Staff can be trained to develop low-cost devices from locally available resource materials. A resource directory of low vision services and devices can be prepared to inform the patients regarding availability.

4. Equipment and devices procurement
One of the critical elements in the provision low vision service is the procurement of low vision ophthalmic equipment and devices. Initially, the standard list of equipment and devices for tertiary eye care centres prepared by Vision 2020 Right to Sight, low vision group, can be used. Later on expansion may be done as per need and demand for services. Devices can be purchased from hospital resources or support from any external funding agency. Low-cost devices and technology developed indigenously can be ordered. There are many agencies that assist in establishing low vision services, for example, Sightsavers International, Christoffel Blinden Mission, Lighthouse International New York etc. The Low Vision Resources Centre, Hong Kong supplies devices and assessment equipment at an affordable cost to the developing countries. Government grant, if any, can be applied, for example the Government of India scheme of assistance to disabled persons (ADIP) for the purchase/fitting of aids/appliances (ADIP scheme). Staff can be trained to develop low-cost devices from locally available resource materials. A resource directory of low vision services and devices can be prepared to inform the patients regarding availability.

5. Networking with other organizations working for visually disabled
Low vision patients will face the greatest challenge in the community. This step emphasizes the need of continuum of care for visually disabled living with low vision in the community. Low vision service is incomplete in absence of proper networking with other community organizations for rehabilitation services. These include blind special schools, inclusive and integrated schools etc. Though the focus of institutional based low vision service is on a medical care, some basic portion of rehabilitation and initial counseling can be provided with due attention to the family and community or other relevant social factors. Continued care of patients in the community itself is crucial for further improvement in quality of life and to build up daily living skills. Hence there should be a cross referral system with the local NGO’s working for rehabilitation of the low vision patients.

6. Quality assurance and Monitoring
This step is mostly neglected in many of the health care programme. Ideally, it must be an integral part of the programme. To improve the overall effectiveness of the low vision services, it is essential that the patient with low vision achieves their target goal, that was determined at the beginning of the care. This may be an occupational performance, patient satisfaction, daily living skill activity, or the overall quality of life. Appropriate monitoring indicators can be established for each component i.e. efficiency, effectiveness, and humanity. A system should be set up to collect information relating to these indicators. Monitoring also enables program managers to determine whether the resources are being used rightly for the purpose planned. Certain valid tools are also available to monitor outcome, related to low vision patients’ participation in daily life, e.g. Canadian Occupational Performance (COPM), the Melbourne low vision ADL index and Safety Assessment of Function and the Environment for Rehabilitation. The following indicators can be used for monitoring of low vision services:

A. Efficiency indicator-This is related to the amount of resources put for the intervention to the output or benefits obtained. It is all about the effective utilization of existing resources to achieve the set target. E.g.: Number of low vision patients registered, number of low vision patients trained or rehabilitated or educated or assisted in the issuance of disability certificates, number of education materials developed, and a number of devices prescribed and dispensed etc.

B. Effectiveness indicator-This indicator describes the benefits of health gained out of services. It is measured by improvement in health. E.g.: Quality of life, Standard of living improved, Occupational or educational performance, Increase in mobility, Improvement in daily living activity (eating, bathing, prepare meal, clothing etc.), and Reading newspaper, medicine level etc.

C. Humanity indicators-These describe the social and
psychological acceptability of the services or treatment provided. E.g. Client satisfactory rate, patients’ experiences of services, behavioral assessment of the staff (while guiding the patients) etc

**Conclusion**

Low vision is a disability, which has a significant impact on social, psychosocial and economic aspect of the individual, the family, and the society as a whole. Individuals with low vision are prone to suffer from depression, higher risk of death or falls. Low vision in children has an adverse impact on education, knowledge and development of skills. Therefore, to improve the independency and the quality of life for patients with low vision, it needs to be provided by various professionals working in eye health, education and rehabilitation. It is important that a standard system encompassing both medical and social components of the low vision services should be established in each eye care facility as per need and resources available. Provision of good quality low vision service which is scalable, adaptable, acceptable, as well as cost-effective, should be mandated for every tertiary level eye care centre to deal with the increasing burden of low vision in the developing nations.

**References**

1. Binns AM, Bunce C, Dickinson C, Harper R, Tudor-Edwards R. How effective is low vision service provision? A systematic review. *Surv Ophthalmol* 2012; 57:34-65.
2. Nia K, Markowitz SN. Provision and utilization of low-vision rehabilitation services in Toronto. *Can J Ophthalmol* 2007; 42:698–702.
3. Standard list for low vision services. VISION 2020 low vision group. *Community Eye Health* 2004; 17:8.
4. Scheme of Assistance to Disabled Persons for Purchase (ADIP scheme) 2014, Ministry of Social Justice and Empowerment, Shastri Bhavan, New Delhi, Government of India (last accessed 2nd February 2015).
5. Law M, Baptiste S, McCol M, Opzoomer A, Polatajko H, Pollack N. The Canadian Occupational Performance Measure: An outcome measure for occupational therapy. *Can J Occup Ther* 1990; 57:82-7.
6. Haymes SA, Johnston AW, Heyes AD. The development of the Melbourne Low-Vision ADL Index: A measure of vision disability. *Invest Ophthalmol Vis Sci* 2001; 42:1215-25.
7. Lets L, Scott S, Burtney J, Marshall L, McKeen M. The reliability and validity of the Safety Assessment of Function and the Environment for Rehabilitation. *Br J Occup Ther* 1998; 61:127-32.

**Cite This Article as:** Singh SS, Praveen V. Bridging the Gap between Medical Low Vision and Visual Rehabilitation Services in Developing Nations. *Delhi J Ophthalmol* 2017;27;287-9.

**Acknowledgements:** None

**Date of Submission:** 30/12/2016 **Date of Acceptance:** 06/02/2017

**Conflict of interest:** None declared

**Source of Funding:** Nil

**Corresponding author:**
Senjam Suraj Singh MD
Associate Professor,
Department of Community Ophthalmology,
Dr. R P Centre Ophthalmic Sciences AIIMS,
New Delhi, India
E-Mail: dssuraj@gmail.com