

Report

Multidisciplinary approach in the development of comprehensive low-vision services in developing countries

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Introduction

The first school, for the partially sighted (myopic children) was established in London in 1908. This was followed by the establishment of a chain of such sight-saving schools in Britain from 1910 to 1920. In 1913, sight conservation classes started in the United States of America. The first large print book was published as early as 1914. Unfortunately, there was no progress in the field of low-vision from 1920 to 1950, but in 1953 Gerald Fonda established the first low vision clinic.

In 1958, the first low-vision clinic in Scandinavia was established in Denmark. During the 1960s, much work was done on the teaching of low-vision children by Natalie Barraga [1]. Scandinavia, especially Sweden, took the lead in the 1970s by promoting and establishing the concept of systematic low-vision training introduced by Linstedt-Gertz and Bäckman-Inde. During the 1980s, Sweden provided assistance to many countries in establishing low-vision services.

A significant milestone was the publication of the World Health Organization (WHO) document on the management of low vision in children in 1992 [2] which contained a definition of low vision:

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, or a visual field of less than 10° from the point of fixation, but who uses, or is potentially able to use, vision for the planning and/or execution of a task.

The purpose of the WHO definition of visual impairment is to have a common denominator for reporting. Such a definition of visual impairment is needed for several purposes, such as planning service delivery and resource allocation.

Developing countries

Over 90% of the world's visually impaired people are found in developing countries;

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Received: 18/03/97; accepted: 15/06/97

more than half of them live in Asia and a vast majority of them in rural communities. According to a survey conducted in Pakistan from 1987 to 1990 on the prevalence of blindness, 2.5 million people are blind in both eyes, 2.48 million are blind in one eye and 4.8 million are visually impaired. It is estimated that of these 10 million people, approximately 0.5 to 1 million people can be helped with low-vision optical aids, and almost 5 million are in need of low-vision services. It is also of interest to note that 45% of the population of Pakistan, as in most developing countries, is under the age of 12 years. Birth rates are high and life expectancy is often less than 60 years. Thus, there is no doubt that new services should be concerned more with infant care and the (re)habilitation of children from birth to school age. Much of the work requires appropriately trained teams of health workers. However, in poorer countries there is a general scarcity of such personnel. Additionally, in both medical and educational fields, there are very few centres specialized in the treatment of the visually disabled.

Industrialized countries

Nationally and internationally, low-vision service delivery systems reflect a wide spectrum of options. Low-vision services are available in hospitals, community clinics, colleges of optometry, centres for the blind and the visually impaired, health centres, educational facilities, preschool programmes and in the homes of those affected. Services of varying quality and scope are often dependent upon the initiative of low-vision advocates (a parent, a teacher or an ophthalmologist). In some instances, they receive the support of local and/or central government or large nongovernmental organizations (NGOs) [3].

Low-vision advocates in Australia have been especially aggressive in promoting the establishment of public and private low-vision services, backed by major government funds through Medicare and other programmes [1]. In Canada, at the Canadian National Institute for the Blind, vision rehabilitation workers are approved to authorize designated devices within the provincial assistive devices programme within the Ministry of Health [1]. Scandinavia has perhaps the most comprehensive low-vision service delivery system in the world. The recognition of the importance of careful visual assessment and instruction, the use of optical and nonoptical devices and electronic devices together with a wealth of social service funds have allowed the Scandinavians to provide comprehensive and up-to-date services to the partially sighted. In Spain, any member of ONCE (National Organization for the Blind in Spain) who has poor vision may apply for low-vision services. These are free of charge, and optical and/or electronic aids and devices are sold at cost or may be subsidized by up to 50% by ONCE [2].

Multidisciplinary approach

Low-vision care is the philosophy, low-vision (re)habilitation is the service [3]. It includes the assessment of the individual's residual vision and the prescription of devices as well as training at a low-vision clinic in the use of the devices while engaged in specific activities (such as reading a newspaper or walking down a hallway) [4].

A low-vision specialist is a specially trained professional (an ophthalmologist, an optometrist or a "low-vision therapist") who contributes to the vision (re)habilitation of the low-vision individual. Thus, a low-vision team is a multidisciplinary

group of professionals who work with low-vision persons with the goal of promoting their visual acuity and activity. This philosophy aims at making low-vision persons aware of their remaining vision, so they do not just focus on their loss or their impairment. Low-vision training is the most essential part of low-vision services. Without emphasis on systematic low-vision training, previous stages of low-vision (re)habilitation will be of no value [2].

There is a need to develop a system of coordination between the policies for the disabled and the special education services. As a fundamental principle, the provision services for the assistance of visually impaired children and their families should primarily integrate two areas: health and education (Figure 1).

Task force

To guide policy-making and monitor the development of an infrastructure for low-

vision services, it is necessary to have a task force. There should be a representation of certain essential resource areas. The terms of reference for the task force should be as follows:

- to establish an executive policy-making committee within the ministries responsible for special education and social welfare for matters relating to low-vision services;
- to monitor the development of low-vision services in the country;
- to coordinate between the national committee for the prevention of blindness, ministry of health and the ministry of special education on matters relating to low-vision services in the country [5].

Primary eye care

Primary eye care is an essential part of ophthalmic services. The time is now right to introduce and develop primary eye care

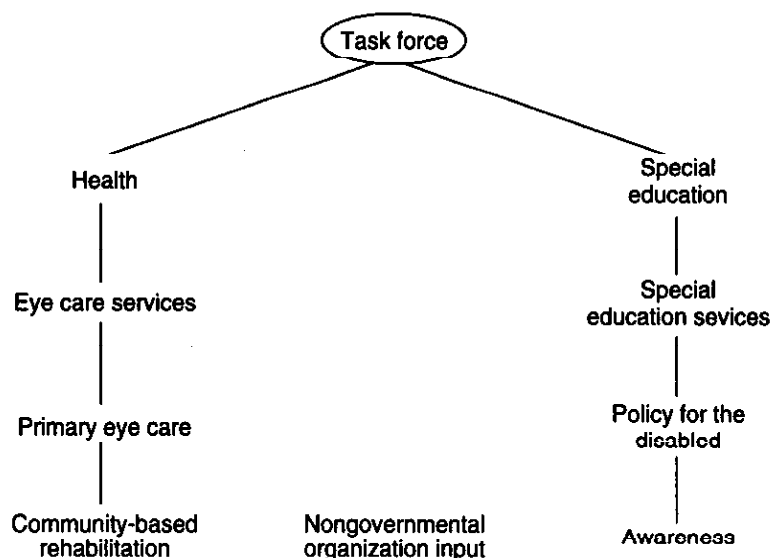


Figure 1 Model of a multidisciplinary approach for the development of comprehensive low-vision services

particularly with the recent trend towards primary health care. An integrated programme should be implemented, whereby all health workers and general medical practitioners working within the primary health care system and also those working privately should receive a short course on primary eye care.

Community-based rehabilitation

Community participation in the vocational rehabilitation of disabled people is vital in order to enhance their economic and social functioning.

Public awareness

In all developing countries, the commonest way to reach the public is through the media. Newspapers are widely available and are read by many people; furthermore, television is readily available. In developing countries, on average over 50% of the population is illiterate and therefore cannot be reached through newspapers. Where people are literate in the developing countries, innovative ways of increasing public awareness have been tried and found to be very successful, e.g. posters placed on the backs of the buses along with simple caricatures to increase the understanding of the man in the street. In countries where illiteracy is very high, the most suitable choice is the radio. Religious leaders, especially priests in churches and imams in mosques should be recruited to help as much as possible. Since the majority of developing countries are agrarian-based, and therefore most of the population are rural dwellers, it is important to ensure this sector is reached.

NGO input

Developing countries need to rely on the expertise of the international NGOs, which have successfully introduced and guided the implementation of various programmes

on primary eye care, community-based rehabilitation and prevention of blindness. Nongovernmental organizations such as the Christoffel Blindenmission, the UK Royal National Institute for the Blind, the Canadian National Institute for the Blind, Helen Keller International, the Perkins School for the Blind, ONCE and Sight Savers have been the driving force behind many programmes. These organizations should now focus their efforts more on the field of low vision.

The possible areas in which these organizations can help are:

- development of a cadre of low-vision therapists
- widespread use of low-vision devices
- low-vision research
- awareness programmes
- support to countries which are in the process of implementing low-vision programmes.

Discussion

Even in developing countries, some organizations have dedicated themselves for more than a century to the (re)habilitation of children, especially those of school age. Nevertheless, attending school is a difficult task for children with impairments when they have to strive against the small number of places available, social segregation and the inadequacy of the support provided by educational authorities. Furthermore, children above seven years of age may face even greater obstacles and require expensive special schooling. These factors illustrate the problems facing those in charge of the education and the (re)habilitation of children with impairments.

A team consisting of an ophthalmologist specialized in low vision and an educa-

tor familiar with visual disability would be able to achieve a better outcome by quantifying the available vision, correcting refractive errors, determining how the child uses its vision and instructing the members of the family on how to support and understand their child [7].

Since eye clinics and teaching hospitals are good reference points, it is suggested that:

- Medical school interns should be made aware of the fundamentals of low vision.
- Postgraduate training in ophthalmology should include low vision and all related topics.
- Other medical specialties dealing with children and people with adjustment problems, e.g. paediatrics and psychiatry, could also be included in the awareness programme since paediatric clinics may be the first exposure an infant has to medical personnel. Primary health care workers and delivery attendants should also be included in the training programme.

Low-vision centres incorporated into major hospitals will be significant diagnos-

tic and assessment resources, in addition to their role in training specialized personnel. Nevertheless, it is important to decentralize care functions so that they do not remain concentrated in a few centres. This could be achieved through smaller centres, directly linked to their "parent" centre, that are designed to provide early intervention in day nurseries or preschool settings located in the surrounding large cities. Small centres could be supported by the community and integrated into other children's activities [7].

The educator responsible for a qualitative evaluation of vision in order to identify major implications should establish a suitable training programme, discuss with the ophthalmologist the difficulties experienced by a given child and appraise the possibility of using optical devices or other devices to improve the use of vision. A major role played by the educator should be advising the child's parents and placing emphasis on their direct participation in their child's training. Satisfactory advice coupled with good family relations often allow the child to function better than in a regular day-care setting, which is a luxury in most developing countries [2].

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