Community Eye Health
Volume 11 Issue No. 26 1998
INTERNATIONAL CENTRE FOR EYE HEALTH
AN INTERNATIONAL JOURNAL TO PROMOTE EYE HEALTH WORLDWIDE

The Importance of Primary Eye Care

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Primary eye care (PEC) is a broad concept, encompassing the prevention of potentially blinding eye diseases through primary health care (PHC). PEC includes the identification, with treatment or referral, ofindividualswithtreatablecauses of blindness; and the diagnosis and treatment of common eye diseases, particularly those causing an acute red eye (see Figure on page 19). The principles of PHC (i.e., fair distribution;community involvement; focus on prevention; appropriate technology; multi-sectorial approach) should all apply in primary eye care. If many of the eight essential elements of PHC are applied, this would contribute significantly to the prevention of eye diseases and blindness.

The eight essential elements of PHC are as follows:

1. Education concerning main health problems
2. Promotion of food supply and good nutrition
3. Adequate supply of safe water and basic sanitation
4. Maternal and child health, and family planning
5. Immunisation against major infectious diseases
6. Prevention and control of local endemic diseases
7. Appropriate treatment of common diseases and injuries
8. Provision of essential drugs.

Preventable causes of blindness: Currently there are estimated to be approximately 140 million children with active trachoma which could be prevented if water supplies and sanitation were improved, as has occurred in Europe where trachoma used to be endemic. Intersectorial collaboration between health workers, water engineers and environmental officers is essential for the control of trachoma. As trachoma principally affects poor, disadvantaged communities the principle of even distribution of resources is also highly relevant. Community participation needs to be encouraged for the control of trachoma

It has been estimated that 500,000 children become blind every year, the majority from corneal scarring due to vitamin A deficiency, measles and the use of harmful traditional eye medicines. Much of this blindness could be prevented if the underlying causes could be addressed through PHC, i.e., safe water supplies to prevent diarrhoea, immunisation to prevent measles infection, promotion of food supplies and good nutrition, the availability of essential drugs to reduce dependence on harmful traditional remedies, and maternal and child health. These activities should all be included in primary eye care.

Primary eye care: waiting to see the trained community health worker at Wad Sharifi refugee camp, eastern Sudan

Photo: Murray McGavin

In Sub-Saharan Africa there are estimated to be 18 million people infected with *Onchocerca volvulus* who are at risk of blindness from sclerosing keratitis, optic atrophy and chorioretinitis. Programmes which distribute ivermectin to affected communities for the control of onchocerciasis are also primary eye care activities. The aim of ivermectin distribution is to prevent eye disease and blindness in those already infected, as well as to reduce transmission, so preventing infection in uninfected individuals. Programmes, in which the community has selected those who will distribute ivermectin, have been

In This Issue . . .

This issue is generously supported by the UK's
Department for International Development (DFID)

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World Health Organization Collaborating Centre for Prevention of Blindness

The Heyford Press Ltd.
ISSN 0953-6833

more effective than those where ivermectin is distributed by people chosen by external bodies, showing the importance of community participation, another principle of PHC.

Treatable causes of blindness: There are many eye diseases which, if detected early, can be treated to prevent blindness (e.g., trichiasis from trachoma, early diabetic retinopathy). There are other conditions, such as cataract, where sight can be restored by appropriate surgery.

It is estimated that 10 million people (mainly women) are at risk of blindness fromtrachomatous trichiasis. These people need to be identified and surgery performed in the community, to prevent them from becoming blind. Surgery performed in a clinic setting is unlikely to meet the need, as people affected by trichiasis usuallycomefromremote,poor rural areas.

In Western countries diabetic retinopathy is an important cause of potentially preventable blindness in people of working age. Screening programmes, undertaken by appropriately trained personnel, exist is many communities to diagnose and refer those needing photocoagulation to prevent blindness. Primary open angle glaucoma affects an estimated 13.5 million people worldwide; these individuals need to be identified and referred for treatment to prevent blindness. Primary eye care is, therefore, essential in all communities, and in all regions of the world.

Of the estimated 38 million who are blind, 20 million are blind from cataract, a condition where sight can be restored by surgery. Individuals requiring cataract surgery need to be identified and referred, an activity which also comes within the remit of primary eye care.

Eye diseases requiring treatment: In many countries eye diseases (such as conjunctivitis, mild trauma, watery eyes, etc.) are among the commonest health problems presenting to primary level health workers. These health workers need to know how to examine the eyes, how to diagnose conditions they can adequately treat themselves, and which eye diseases they should refer for more detailed examination, diagnosis and treatment. This is a very important activity of primary eye care, as the wrong diagnosis can lead to delay in providing the right treatment, which may have adverse long term consequences. Primary level workers should know how to diagnose and treat infections such as conjunctivitis; they should know when to begin treatment and refer (e.g., for corneal ulcers); and they should know which conditions should be referred to the secondary or tertiary level (e.g., loss of vision, cataract).

Summary: Primary eye care, therefore, includes many activities which can be implemented in the community, or at the primary level of health care. Primary eye care is the essential building block for prevention of blindness in all communities and in all regions of the world. Without primary eye care only those individuals who present to secondary and tertiary facilities will be diagnosed and treated, and little will be achieved in terms of prevention. Different cadres of worker can be involved, many of whom already have many duties and responsibilities. This is one of the dilemmas and challenges facing the effective and integrated implementation of primary health care. Consideration also needs to be given to the training requirements of these cadres so that they become integrated primary eye care workers. Primary eye care cannot function effectively in isolation. It is very important that there is good communication as well as effective referral systems to the secondary and tertiary levels of eye care where there are facilities and personnel trained more specifically in the treatment of ocular diseases.

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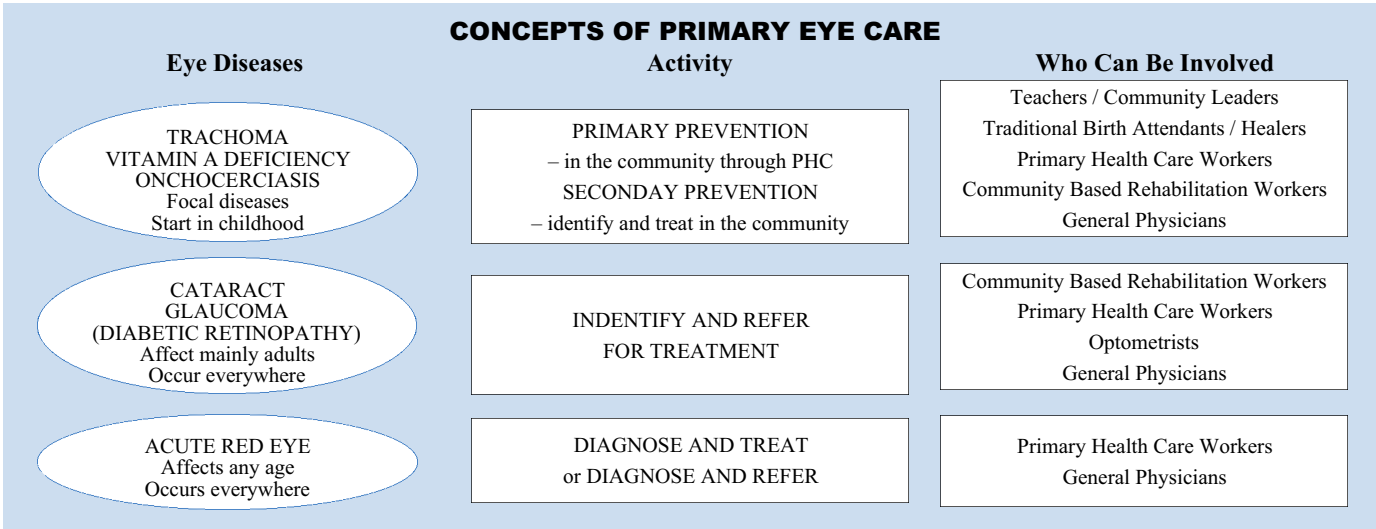
Supported by:

Sight Savers International (United Kingdom)
Christoffel Blindenmission (Germany) and
Christian Blind Mission International
Danish Assistance to the National Programme for Control of Blindness in India (Denmark/India)
HelpAge International (United Kingdom)
International Glaucoma Association (United Kingdom)



Essential Components of Primary Eye Care

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Introduction

Primary eye care activities cover the following two areas of community health services.[1]

1. Clinical service component
2. Eye health protection and promotion component

It is most important that most activities are initiated and sustained by community members themselves. The eye sector helps the community, complementing what they do in their day-by-day activities.

The essential elements of primary eye care should be determined by careful study providing a 'community diagnosis', based on an epidemiological approach. The study will list community eye problems in order of priority. To this end the study should be planned to include the following information:

1. **Magnitude: M** – prevalence and incidence, given by the number of community members suffering from particular conditions and new cases expected in a given period of time.
2. **Implication: I** – social and economic consequences from the condition, given in terms of expenditures, work loss, absence from school, etc.
3. **Vulnerability: V** – availability of effective means of intervention.
4. **Cost: C** – resources needed for control programmes.

Priority may be known from:[2]

$$\text{Priority} = (\mathbf{M} \times \mathbf{I} \times \mathbf{V}) / \mathbf{C}$$

This is a simple model illustrating scientific application in planning. It should avoid instinctive preferences based only on clinical experiences.

Service Components of Primary Eye Care

Service in the community should be sufficiently comprehensive to cover aspects of primary, secondary and tertiary prevention targeted for all community members whether they have or do not have eye problems. This is the point where community-based care differs from hospital-based services.

It begins with an understanding of any community at a point in time, and recognises three groups of people in need of eye care screening:

1. Healthy group.
2. The group with certain eye diseases or problems.
3. The group at risk of eye diseases or problems.

Hence, services should not only be clinical, but equal or more attention is needed for people without disease. Primary eye care, therefore, covers the whole range of eye health care for all community members.

Clinical Service Component

Community diagnosis precedes primary eye care activities and may give a different outlook regarding eye health of individual communities. This leads to adapted service components, according to social and economic standards, as well as the available system of health care. Essential elements, therefore, vary accordingly and may not include only the well known major blinding conditions. In addition, common eye disorders found in individual communities require simple but adequate services

WHO GUIDELINES FOR PRIMARY EYE CARE

1 Conditions to be recognised and treated by a trained primary health care worker
- Conjunctivitis and lid infections
  - Acute conjunctivitis
  - Ophthalmia neonatorum
  - Trachoma
  - Allergic and irritative conjunctivitis
  - Lid lesions, e.g., stye and chalazion
- Trauma
  - Subconjunctival haemorrhages
  - Superficial foreign body
  - Blunt trauma
- Blinding malnutrition

2 Conditions to be recognised and referred after treatment has been initiated
- Corneal ulcers
- Lacerating or perforating injuries of the eyeball
- Lid lacerations
- Entropion/trichiasis
- Burns: chemical, thermal

3 Conditions that should be recognised and referred for treatment
- Painful red eye with visual loss
- Cataract
- Pterygium
- Visual loss; <6/18 in either eye