

Policy brief

Eye health in children



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Health, including eye and visual health, is inextricably linked to educational achievement, quality of life, and economic productivity. Educating children in health in the school setting is as fundamental as acquiring and building knowledge and is critical to their ability to learn and therefore fully benefit from education. Health education allows them to acquire the knowledge, attitudes and practices necessary for a healthy life.

Many global programmes and initiatives focus on children and health. It is critical that eye health is part of these global initiatives and that programmes are comprehensive and go beyond vision testing for refractive error, currently the primary focus of school eye health activities. School eye health therefore needs to be fully integrated into both wider school health and eye health programmes.



Peter Caton/Sightsavers

Scale of the problem

Children in all regions of the world are affected by a range of eye diseases and conditions, some of which lead to permanent visual impairment in childhood, or later in life. Many of these conditions are preventable or treatable. In the poorest communities in the world, up to 50% of children aged 0-10 years have active **trachoma**, caused by Chlamydial infection. Untreated this can lead to corneal scarring in adult life, particularly among women. In countries with under 5 mortality rates above 50/1,000 live births, **vitamin A deficiency** is

a public health problem, leading to increased mortality as well as corneal blindness; in the poorest countries of Africa and Asia, immunisation coverage is not high enough to prevent epidemics of **measles** and measles-related corneal ulceration.

“Up to 50% of children aged 0-10 years have active trachoma”

In all regions, 1-2% of preschool children have **strabismus**, which can lead to unilateral visual loss if not detected and treated early. **Cataract** also affects children in all regions, and early detection and surgical management by paediatric teams leads to improved visual functioning even if surgery is performed too late to give good visual acuity.

In all regions children of school going age can be affected by bacterial and viral **conjunctivitis**, the latter often occurring in widespread epidemics, and allergic conjunctivitis, which can be very severe, leading to persistent symptoms and visual impairment. **Lid infection** and **cysts** are also common. In regions without provision of services for eye health, communities often resort to traditional remedies which can exacerbate the problems.

Refractive errors occur in children in all regions of the world, but the pattern of prevalence and the type of refractive error vary. For example, in urban and rural China, myopia is extremely common, even in young children. On the other hand, children in Africa have a very low prevalence of significant refractive error. Studies in all countries show that babies are born slightly hypermetropic, but this declines as the child, and their eyes, grow. Astigmatism

affects children in all regions, and does not appear to change with age. In regions where myopia is common, the condition starts around the age of 6-10 years, and progresses over the next few years. Regionally relevant data such as this is of great relevance and informs: a) whether refractive error in children is a significant enough public health problem to warrant school health initiatives, b) which age group should be included, c) how frequently children should be tested and d) whether this a good use of limited resources.

A comprehensive response

In order to respond to the range of eye diseases and conditions, Sightsavers' policy is that school eye health programmes need to be comprehensive, and go beyond the detection and treatment of refractive errors. This is in line with global school health initiatives such as the WHO's "Health Promoting Schools"; UNICEF's Child Friendly School initiative, and UNESCO's Focusing Resources on Effective School Health.

Comprehensive school health programmes for children include nutrition and growth, oral hygiene, de-worming etc. Eye health also needs to be more systematically included, in particular:

- Use of resources of school health programmes to conduct an assessment of eye problems and including eye health within general health resolutions and policies;
- diagnosis and treatment of locally endemic eye conditions;
- refractive error, detection and treatment;
- diagnosis and referral of children with more serious eye conditions;
- prevention of locally endemic eye diseases such as vitamin A deficiency, trachoma and measles;
- conditions treated following school health assessments include HIV/AIDS, malaria and oral health. School eye health programmes could link with these existing initiatives including co-treatment of diseases particularly trachoma, soil-transmitted helminths and schistosomiasis¹.

Health education also needs to be inclusive of eye health, with a focus on:

- helping children become agents of change in their families and communities
- In trachomatous areas, including education about environmental hygiene, sanitation and face washing, and effective storage and use of water.
- Home gardening and teaching children about preparation, storage and cooking of locally available foods rich in vitamin A. This is an example of how eye health is linked to broader health issues.

Case study

The school eye health programme in The Gambia exemplifies the co-ordinated approach required between the Ministry of Health and the Ministry of Education to achieve a continuum of services. Inclusion of parent-teacher associations and involvement of communities in a child-to-child strategy were some of the strategies which ensured acceptance of the programme. Other components included:

- Health education within the curricula of primary schools. Practical activities included school gardening to prevent vitamin A deficiency, and face washing and environmental sanitation and latrines, for trachoma control
- Primary eye care within the schools for first aid for injuries, and early detection and referral of common endemic conditions, such as allergic conjunctivitis
- Treatment of active infection for trachoma control
- Vision testing including an innovation of self testing in vision corridors in schools.
- Correction of refractive error and provision of spectacles for children, their siblings and parents, as well as provision for teachers with presbyopia. Provision to address this need was met by local eye care service providers.
- Other eye problems were detected early and receive attention and follow up care, close to where the children lived.
- Irreversibly visually impaired children were supported by the inclusive education programme and had access to other school health programmes, as appropriate.

The programme has adapted initiatives such as the use of teachers for vision testing in schools, and the use of optometric technicians for the provision of refraction and glasses. Teacher training curricula have been reviewed and adapted and education policies amended to incorporate an inclusive education and rights based approach under the Education For All global programme.

Programmes also need to respond to the evidence on effective responses to each disease or condition. For example, in providing services for refractive errors in children in schools, it is important to take account of the evidence showing that in many regions a high proportion of children prescribed spectacles do not wear them or do not have them with them at school 3-6 months later. Factors predicting spectacle wear include gender and the degree of refractive error, with children with higher levels of myopia being more likely to wear their spectacles than those with less severe errors. Studies have also clearly demonstrated the importance of the appearance of spectacles as children do not wear them if they are concerned about their appearance, and/or are teased². It is also important that parents are fully informed of the value to their child of wearing spectacles, as parents often have misconceptions about the potential for spectacles to “weaken the eyes” or make the refractive error worse. The development of global resource centres ensures that high-quality, affordable and acceptable spectacles and equipment for use in refractive error control programmes are readily available.



Jamshyd Masud/Sightsavers

Key policy points

1. The preferred approach for the delivery of school health programme is an alignment between education and health systems, so that services are available and accessible to all children.
2. An effective school health programme can be one of the most cost effective investments a nation can make³.
3. Strengthening of organisational and institutional capacities at policy, planning, and implementation levels is critical for the effective delivery of school health programmes.
4. Eye health is an essential part of a school health programme and should be comprehensive and respond to the relevant range of eye conditions and diseases prevalent in the programme area.
5. Refractive error is a critical, but not the only, focus of a school eye health programme. In delivering the refractive error element, it is important to recognise that cultural and cosmetic factors inhibit the use of spectacles, especially in children. Acceptability and continued use depend on visual comfort and appearance using good quality, attractive, and comfortable spectacles.
6. To enable comprehensiveness and sustainability programmes should engage all relevant actors, including professional bodies.

Contact us

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Endnotes

¹ King JD et al 2009 Integrating NTD mapping protocols: can surveys for trachoma and urinary schistosomiasis be done simultaneously? *Am J Trop* 81: 793-798

² Yasmin S, Minto H. Community Perceptions on Refractive Errors in Pakistan. *Situation Analysis of Refractive Services Pakistan 2006*. http://www.cehjournal.org/0953-6833/20/jceh_20_63_052.2.html

³ http://www.who.int/school_youth_health/en/

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