

Table 3: Estimates of Number of Blind Children by Anatomical Site, and Underlying Aetiology

Anatomical site	Number affected	Examples	Aetiological category	Number affected	Examples
Retina	381,000	Dystrophies	Hereditary	423,000	Cataract
Cornea	231,000	Scarring	Childhood	260,000	Measles
Whole eye	230,000	Microphthalmos	Perinatal	151,000	Ophthalmia neonatorum
Lens	170,000	Cataract	Intrauterine	50,000	Rubella
Optic nerve	167,000	Optic atrophy	Unknown	516,000	Phthisis
Glaucoma	68,000	Glaucoma			
Uvea	50,000	Aniridia			
Other	103,000	Cortical blindness			
Total:	1,400,000			1,400,000	

Table 4: Estimates of the Magnitude and Major Causes of Blindness in Children per Million Total Population

	High income		Middle income		Low income		Very low income	
% population children	20%		30%		40%		50%	
Number of children	200,000		300,000		400,000		500,000	
Blindness prevalence	0.3/1000		0.6/1,000		0.9/1,000		1.2/1,000	
No. of blind children	60		180		360		600	
	Cause	%	Cause	%	Cause	%	Cause	%
	CNS/Other	80	CNS/Other	55	CNS/Other	60	CNS/Other	35
	ROP	10	ROP	25	ROP	0	ROP	0
	Cat/glaucoma	10	Cat/glaucoma	20	Cat/glaucoma	20	Cat/glaucoma	15
	Scarring	0	Scarring	0	Scarring	20	Scarring	50

CNS = central nervous system ROP = retinopathy of prematurity Cat = cataract

Table 5: Regional Variation in Avoidable Causes of Blindness

	High income Blind = 90,000		Middle income Blind = 290,000		Low income Blind = 1,020,000	
ROP	9,000 (10%)	Cataract	45,000 (15%)	Corneal scar	200,000 (20%)	
Teratogens	5,400 (6%)	ROP	29,000 (10%)	Cataract	133,000 (13%)	
Cataract	5,400 (6%)	Glaucoma	17,000 (6%)	Glaucoma	60,000 (6%)	
Glaucoma	2,000 (2%)	Teratogens	12,000 (4%)	Optic atrophy*	60,000 (6%)	
Total avoidable:	21,800 (24%)	Total avoidable:	103,000 (35%)	Total avoidable:	453,000 (45%)	

* due to infections, trauma and tumours

vitamin A deficiency, interventions that do not depend on vitamin A supplementation. **Cataract.** Cataract surgery is much more difficult in children, and very few clinical trials have been undertaken to explore the optimum management. Further research is also needed into the aetiology of cataract in different parts of the world, as well as qualitative research to investigate barriers to the uptake of cataract surgery.

Retinopathy of prematurity. The pattern of disease in middle income countries seems to be different from that currently seen in industrialised countries. There is a need for research into risk factors in different settings, and the validity of different methods of screening for threshold disease needs to be investigated.

Low vision. There are very few studies of low vision in children. It is not really known how common it is, and what the major causes are at the population level. There are virtually no studies which have addressed the issue of best low vision devices for children.

Diseases of unknown cause. There are many blinding eye diseases where the underlying cause is not known, e.g., congenital anomalies of the eye. Research is needed to try and clarify the relative contribution of genetic and environmental risk factors.

References

- Gilbert C E, Foster A. Childhood blindness in the context of VISION 2020 – The Right to Sight. *Bull WHO* 2001; **79**: 227–232.
- World Health Organization, Geneva. Global Initiative for the Elimination of Avoidable Blindness. Geneva WHO/PBL/97.61.
- Gilbert C, Foster A, Negrel D, Thyelfors B. Childhood blindness: a new form for recording causes of visual loss in children. *Bull WHO* 1993; **71**: 485–489.
- World Health Organization, Geneva. Preventing blindness in children: Report of WHO/IAPB scientific meeting (Unpublished document WHO/PBL/00.77).

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Short Courses

Management Training for Eye Care Managers (2 weeks, March 2002)

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Contact: International Training and Consultancy Program

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