

CAUSES OF BLINDNESS: RESULTS FROM SCHOOLS FOR THE BLIND IN ALEXANDRIA

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INTRODUCTION

Blindness in children can be defined as a visual acuity of <3/60 in the eye with better vision of a child under 16 years of age. This generally means that the child cannot see something three feet, another child could see if it was 60 feet. Blindness in one eye is never defined as legal blindness if the other eye is normal or near- normal. Blindness may be due to genetic mutations, birth defects, premature birth, nfections, injuries, and other causes.

Severe retinopathy of prematurity (ROP), cataracts and refractive error are also causes. The most frequently affected parts of the eyes are: Whole globe (36%), Cornea (36%), Lens (11%), Retina (6%), Optic nerve (5%) and Uvea (2%).

AIM OF THE WORK

The aim of this study was to identify and analyze the main causes of blindness and low vision in schools for the blind.

SUBJECTS AND METHODS

This study was conducted as an observational non-interventional study. The study covered a time period of 6 months during which the students in the schools for the blind in two schools in east and west of Alexandria were visited and were included in the study.

Relevant ocular history and basic ocular examinations were carried out on the students of the blind schools.

A brief history of the eye condition, family history, the presence of additional impairments, anterior and posterior segments were examination, the needs for optical, surgical or medical interventions were recorded, low vision aids and spectacles were prescribed when required.

RESULTS

Table 1: Distribution of the studied cases according to anterior segment findings (n=50)

Anterior segment findings	No.	%
Cornea		
Free	33	66.0
Opacity	15	30.0
Staphyloma	0	0.0
The remaining cases	2	4.0
Anterior Chamber		
Normal Depth	34	68.0
Shallow	2	4.0
Deep	5	10.0
Irregular	2	4.0
The remaining cases	7	14.0
Iris		
Normal Pattern	36	72.0
Atrophic	3	6.0
Irregular	3	6.0
The remaining cases	8	16.0
Lens		
Clear	30	60.0
Cataract	5	10.0
Aphakic	6	12.0
Pseudophakic	4	8.0
Subluxated	0	0.0
The remaining cases	5	10.0
Sclera		
Normal	45	90.0
Staphyloma	1	2.0
Other abnormality (adhesions/Bleb filtering)	2	4.0
The remaining cases	2	4.0
Conjunctiva		
Normal	45	90.0
Filtering bleb	2	4.0
Scarred	1	2.0
Other abnormality	0	0.0
The remaining cases	2	4.0
Other anterior segment abnormalities	6	12.0
Microphthalmia	2	4.0
Aniridia	2	4.0
Megalocornea	1	2.0
Ant.synchia	1	2.0

Table 2: Distribution of the studied cases according to posterior segment findings (n=50)

Posterior segment findings	No.	%
Optic Disc		
Normal	10	20.0
Optic Atrophy	33	66.0
The remaining cases	7	14.0
Retina		
Normal	15	30.0
Atrophic	25	50.0
Pigmentary disturbance	4	8.0
The remaining cases	6	12.0

Table 3: Distribution of the studied cases according to family history (n=50)

Family history	No.	%
Consanguineous parents	30	60.0
Non-consanguineous parents	19	38.0
Similar conditions in the family	20	40.0

CONCLUSION

- The most common causes of childhood blindness in the current study were “Retinal dystrophy/degeneration, followed by corneal opacity, congenital cataract and microphthalmia, among others”.
- The most common anterior segment abnormalities in the current study were: corneal opacity, deep anterior chamber, variable iris pattern an aphakia. The sclera and conjunctiva did not show significant abnormalities in the current study.
- The most common posterior segment abnormalities in the present study were optic atrophy and an atrophic background retina.