The Frequency Of Visual Impairment In Children Attending The Out- Patient Clinic Of Ain Shams University Hospital Due To Different Ocular Conditions

thesis

Submitted for the Fulfillment of the Master Degree in

Ophthalmology

Presented by

Hayder Mohammed Ali Sahib

M.B.Ch.B.- Babylon University

Under Supervision of

Prof. Dr. Dina Ezzat Abd Al Azeez

Professor of Ophthalmology
Faculty of Medicine - Ain Shams University

Prof. Dr. Abd Alrahman Jaber Salman

Professor of ophthalmology
Faculty of Medicine - Ain Shams University

Dr. Maha Mohamed Ibrahim

Lecturer of Ophthalmology
Faculty of Medicine - Ain Shams University

Faculty of Medicine
Ain Shams University
Cairo/2016

وتيرة ضعف الأبصار لدى الأطفال المترددين على العيادة الخارجية لمستشفى جامعة عين شمس بسبب أمراض العيون المختلفة

رسالة بحثية

توطئة للحصول على درجة الماجستير في طب وجراحة العيون

مقدمة من

الطبيب / حيدر محمد علي صاحب

بكالوريوس طب وجراحة عامة – جامعة بابل

تحت إشراف

أ.د./ دينا عزت عبد العزيز

أستاذ طب وجراحة العيون

كلية الطب – جامعة عين شمس

أ.د./ عبد الرحمن جابر سالمان

أستاذ طب وجراحة العيون

كلية الطب – جامعة عين شمس

د./ مها محمد إبراهيم

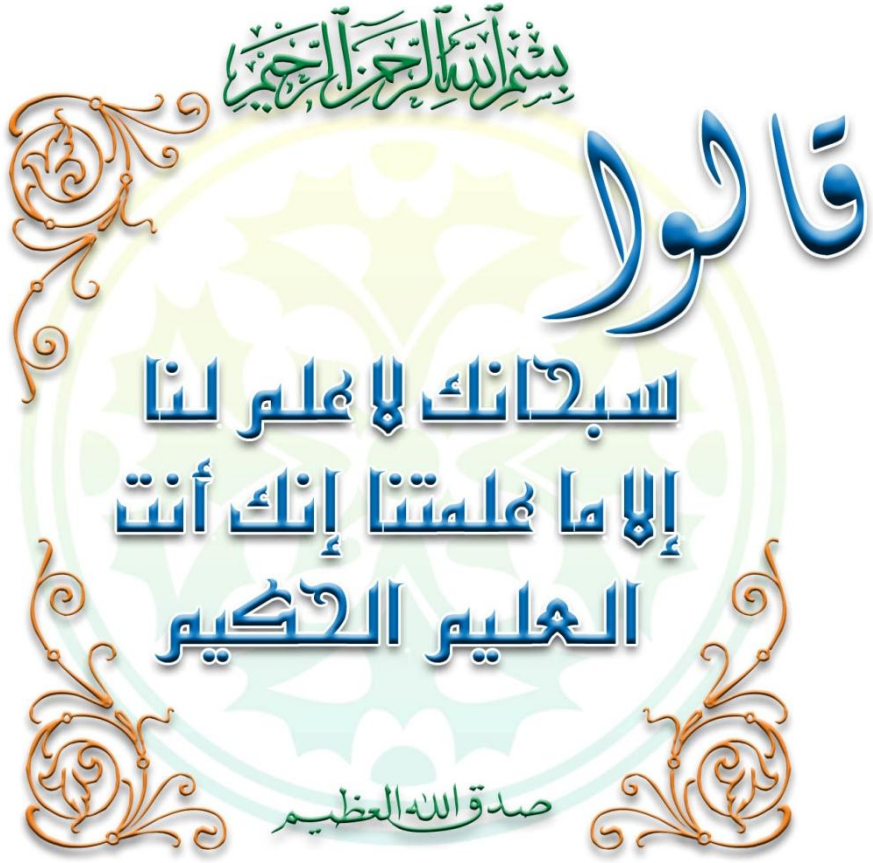
مدرس طب وجراحة العيون

كلية الطب – جامعة عين شمس

كليــة الطب

جامعة عين شمـس

القاهرة ٢٠١٦



سورة البقرة الآية: ٣٢

Acknowledgement

First thanks to ALLAH to whom I relate any success in achieving any work in my life .

I would like to extend my deep gratitude and thanks to Professor ***Dr. Dina Ezzat Abd Al Azeez*** *Professor of Ophthalmology in Ain Shams University for her immeasurable patience and continuous encouragement during the preparation of this work.*

My inexpressible thanks to Professor ***Dr. Abd Alrahman Jaber Salman,*** *Professor of Ophthalmology in Ain Shams University for his objective help and valuable remarks throughout this study .*

I would like to express my extreme gratitude to ***Dr. Maha Mohamed Ibrahim,*** *Lecturer of Ophthalmology in Ain Shams University for her meticulous supervision and invaluable emendation, advice and guidance during the course of this study .*

Last but not least I would like to say a special thank you to My Dear Family for their helpful support and assistance.

Contents

List of Abbreviations

1ry	Primary
2ry	Secondary
3rd	Third
BL	Blind
BSV	Binocular Single Vision
C/D	Cup/Disc Ratio
D	Diopter
D.Cyl.	Diopter Cylinder
D.Sph	Diopter Sphere
e.g.	Example
hge.	Hemorrhage
IOFB	Intraocular Foreign Body
IOP	Intraocular Pressure
IPD	Interpupillary Distance
MPC	Mucopurulent Conjunctivitis
POAG	Primary Open Angle Glaucoma
RD	Retinal Detachment
ROP	Retinopathy Of Prematurity
RPE	Retinal Pigment Epithelium
SD	Spherical Diopter
SE	Spherical Equivalent
Sec.	Seconds
SVI	Severe Visual Impairment
WHO	World Health Organization

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Abstract

Childhood vision disorders are prevalent and are a significant public health problem. Early identification, diagnosis and correction of children's vision disorders are essential parts of all child health programs. The early detection and treatment of vision disorders give the visual system and brain an opportunity to develop normally by preventing permanent vision loss; thus giving children a better opportunity to develop educationally, socially and emotionally.

A study of the patterns of ocular diseases in children is very important because, while some eye conditions are just causes of ocular morbidity, others invariably lead to blindness. Also while some conditions such as refractive errors and cataract are treatable others like measles and vitamin A deficiency are largely preventable.

There are few data available on the prevalence and types of refractive errors, strabismus, amblyopia, lens-related visual impairment and ocular malformation in children in developing countries. Therefore, the magnitude of the problem needs a systematic assessment. That, early ocular assessment of children can facilitate correction of ocular morbidity of the victims.

Visual impairment is a major public health concern. In order to help nations combat visual impairment, it is important to determine the specific aetiologies by region.

This will enable each nation to better understand its specific needs, and better ensure that appropriate resources are efficiently allocated for prevention and treatment.

We conducted this study to determine avoidable causes of childhood blindness and visual impairment so that a nationwide intervention can be planned.

403 children had been included in this study aged 4 to 14 years, 175 (43%) were males while 228 (57%) were females children.

Once a child was enrolled full detailed history had been taken, medical history, presence of other disabilities, previous eye surgery and eye examination was performed, including: visual acuity, pupils, extraocular motility, intraocular pressure with Goldmann applanation tonometer as necessary, anterior segment examination by handheld light or slit lamp and dilation of eyes for cycloplegic refraction by retinoscopy and Fundoscopic examination with a direct or indirect ophthalmoscope. For dilation, cyclopentolate hydrochloride 1% was instilled in all children.

We found that 66 children (16.50% of the total 403 children) were visually impaired (had best corrected visual

acuity less than 6/18).While the other 337 children (83.50%) had normal vision (BCVA between 6/6 and 6/18).

Of those 66 visual impaired children, refractive errors were the major cause of the impairment (41 children 62% of total impaired children) then amblyopia (10 children=15%) and strabismus (6 children= 9%) and other causes such as cataract, trauma, trachoma and congenital issues (9 children=14%).

In the other hand, we found that 30% of the studied children had eye diseases. The most important eye diseases were refractive errors 105 (26.25%) of overall 403 participated children, ocular surface diseases 57 (14.25%), amblyopia 20 (5%), strabismus 11 (2.75%), congenital anomalies 4 (1%), lens-related visual impairment 2 (0.75%) and other different ocular diseases 12 (3%) including blepharitis, chalazion, stye, lid ptosis.

All eye diseases were more common in low socioeconomic families. The most important significant risk factors were previous eye diseases, no early consultation for eye diseases, never received eye examination, low level of parental occupation, sibling(s) with eye diseases, last birth order child and female sex.

Introduction

Good vision is the key to a child's physical development, success in school and overall well-being. The vision system is not fully formed in babies and young children, and equal input from both eyes is necessary for the brain's vision centers to develop normally. If a young child's eye can not send clear images to the brain, his vision may become limited in ways that cannot be corrected later in life. But if problems are detected early, it is usually possible to treat them effectively ***(Naidoo et al, 2012).***

Refractive error (RE) as: (myopia, hypermetropia and astigmatism) affect the whole spectrum of the population irrespective of age, gender, race and ethnic group. Such RE can be easily diagnosed, measured and corrected with glasses or other refractive corrections to attain normal vision. Uncorrected or under corrected RE have severe consequences for the individual, family and society. Previously significant attention has not been given to the contribution of refractive errors to global cause of visual impairment and blindness. This resulted from the realization that previous global estimates of blindness and visual impairment have underestimated the contribution of RE, because many definitions of blindness have been based on best-corrected distance visual acuity ***(Egbe et al, 2010).***

Childhood vision disorders are prevalent and are a significant public health problem. Early identification, diagnosis and correction of children's vision disorders are essential parts of all child health programs. The early detection and treatment of vision disorders give the visual system and brain an opportunity to develop normally by preventing permanent vision loss; thus giving children a better opportunity to develop educationally, socially and emotionally ***(Marshall et al, 2010).***

Variety of specific functions of the eye and the neurological control of these functions, such as eye teaming (binocularity), fine eye movements (important for efficient reading), and accommodation (focusing amplitude, accuracy and flexibility). Deficits of functional visual skills can cause blurred or double vision, eye strain and headaches that can affect learning. Convergence insufficiency is a specific type of functional vision problem that affects the ability of the two eyes to stay accurately and comfortably aligned during reading ***(Murphy and Heiting, 2010).***

A study of the pattern of ocular diseases in children is very important because, while some eye conditions are just causes of ocular morbidity, others invariably lead to blindness. Also while some conditions such as refractive errors and cataract are treatable others like measles and vitamin A deficiency are largely preventable. ***(Deshpande et al.,2011)***