

Prevalence of different eye diseases excluding refractive errors presented at the outpatient clinic in Damnhour Eye Hospital

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LIST OF ABBREVIATIONS

AMD	Age-related macular degeneration
B.C	Before Christ
BCVA	Best-corrected distance visual acuity
CRVO	Central retinal vein occlusion
DR	Diabetic retinopathy
FB	Foreign body
FDT	Frequency doubling Technology
ICTC	The International Coalition for Trachoma Control
IOP	Intra ocular pressure
NLDO	Naso lacrimal duct obstruction
NPDR	Non-proliferative diabetic retinopathy
OCT	Optical Coherence Tomography
ONH	Optic nerve head
PACG	Primary angle closure glaucoma
PDR	Proliferative diabetic retinopathy
POAG	Primary open angle glaucoma
PTCs	Post trachomatus concretions
PVD	Posterior vitreous detachment
RNFL	Retinal nerve fiber layer
U.S	United States
UV	Ultra Violet Rays.
VF	Visual field
WHO	World Health Organization
NVD	New vessels on the disc
NVE	New vessels elsewhere

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INTRODUCTION

Vision is critical for daily activities, and visual impairment is one of the most serious disabilities. Visual impairment at birth or during childhood can affect learning, communication, employment, health, and quality of life, and the effects are often life-long (**Brown et al., 2003**).

According to the World Health Organization (WHO), about 75% of causes of blindness can be avoided through preventive or therapeutic measures, regardless of age. Controlling childhood blindness is one of the priorities of the WHO through its programme "VISION 2020: the Right to Sight" (**Congdon et al., 2003**).

Some eye problems are minor and don't last long. But some can lead to a permanent loss of vision (**Gilbert and Foster., 2001**).

Common eye diseases in Egypt include conjunctival diseases, cataracts, glaucoma, Graves' disease and macular degeneration. Certain diseases, such as glaucoma and cataracts, appear as a patient ages and can lead to blindness if not treated in time (**Kenneth Scott., 1990**).

The number of people with age-related eye diseases is assumed to be on the rise with increasing life expectancy (***Mitchell et al., 2002***).

Cataract is still the major cause of visual impairment and blindness globally, but other age-related eye diseases, that is, age-related macular degeneration (AMD), glaucoma, diabetic retinopathy (DR), are becoming the most important causes in developing countries (***Pascolini and Mariotti., 2012***).

Geographical location, accessibility to facilities and socio- economic status of an individual play a role in occurrence of eye diseases (***TEDPRG., 2004***).

Vision problems create a substantial burden on individuals and society. The estimated total annual cost of visual impairment and blindness among individuals aged ≥ 40 years in the U.S. is \$5.5 billion (***Vitale et al., 2006***).

Healthy People 2010 established national vision objectives to improve visual health through prevention, early detection, treatment, and rehabilitation. Because of cost and logistical difficulty, nationwide studies concerning the prevalence of visual impairment and eye diseases in the United States have been limited (***Healthy people 2010, HHS., 2000***).

The data published by the WHO showed that the total number of persons with visual impairment worldwide in 2010 was estimated to be 285 million, including 39 million blind people, of whom around 80 % were above the age of 50, with most of the causes being preventable. In the European region alone there are 28 million visually impaired people (***Pascolini and Mariotti., 2012).***

Extrapolating from data pooled from a collection of previously completed population-based studies, the Eye Diseases Prevalence Research Group estimated approximately 3.4 million U.S. adults aged ≥ 40 years had visual impairment. This figure was projected to reach 5.5 million by 2020 (***TEDPRG., 2004).***

Given the aging population, increased prevalence of chronic diseases such as diabetes, and the percentage of the population using electronic devices such as computers and smartphones, it is possible that the prevalence of visual impairment may have changed since the earlier reports (***Klein and Klein., 2010).***

About 5% of worldwide blindness involved children younger than 15 years of age. In developing countries, 50% of the population is in this age group. The prevalence of blindness

in children varies from approximately 0.3 per 1000 children in wealthy regions of the world to 1.2 per 1000 in the poorer countries or regions. Three main reasons have been attributed to this. First, diseases that can lead to blindness such as measles, vitamin A deficiency and ophthalmia neonatorum are still prevalent in poor regions of the world. Second, there are fewer well equipped facilities and personnel trained in the management of treatable causes of blindness in poorer countries. Third, in rural areas, ignorance, poverty and superstitions contribute to disease causation and propagation and these work against treatment and prevention (***Gilbert and Foster., 2001).***

AIM OF THE WORK

This study was conducted to determine the frequency and spectrum of eye disorders presenting to the eye clinic of Damnhour Eye Hospital. These findings will be useful for Ophthalmic care planning , prevention and could also serve as a baseline for the development of Ophthalmology subspecialty.

EPIDEMIOLOGY OF VISUAL IMPAIRMENT

Epidemiological studies provide information on the prevention, treatment, and minimization of the impact of diseases on society. A wide range of epidemiologic studies in ophthalmology have provided important information on the pattern of visual impairment and the major eye diseases that cause vision loss (*Congdon et al., 2003*).

Although several epidemiological studies of several age-related eye diseases (e.g., glaucoma, AMD, and cataract) have been conducted in Korea, these studies were hospital-based or were conducted primarily in urban areas. Data on the prevalence of diseases based on the number of hospital visits or surveys conducted in limited areas are easy to obtain; however, substantial differences may exist between such data and that obtained in large-scale population studies, which are more accurate and can represent entire populations (*Song et al., 2009*).

Large-scale population-based studies conducted over the past two decades in many countries, including the United

States, Western Europe, Australia, Japan, Singapore, and China, have been used to guide public health policy and plan preventive strategies. Nation-wide epidemiological studies of all age groups for the prevalence of common eye diseases have not been performed (*Munoz et al., 2000*).

Humans are dependent on their vision for social interactions. Therefore, correct vision is one of the most prominent factors of quality of life. However, visual impairment is one of the leading disorders in older adults affecting 285 million people worldwide and an additional 39 million people are blind. Globally, the major causes of visual impairment are refractive errors (43%), unoperated cataract (33%) and glaucoma (2%). 65% of all people suffering from visual impairment are aged 50 and older. The global causes of blindness are cataract (51%), glaucoma (8%), AMD (5%), childhood blindness and corneal opacities (each 4%), uncorrected refractive errors and trachoma (each 3%), DR (1%) and undetermined causes (21%) (*Anders et al., 2007*).

The WHO estimates that 90 % of all blind and visually disabled people live in middle- and low-income countries. However, blindness is not always prioritized by health and public health practices, especially when mortality