PDF version

Feray Koç,[1] Veysi Erden[1] and Nazife Sefi-Yurdakul[2]

[1]Izmir Ataturk Education and Research Hospital, Izmir, Turkey (Correspondence to: Feray Koc: dr_feray@yahoo.com.2Baskent University, Izmir, Turkey.

Abstract

Background: Data from Turkey show that sense organ diseases were the second leading cause of years lost due to disability in 2015. However, there are no reliable data on either the baseline causative disorders of visual impairment or the burden of these disorders on the population in Izmir region. Izmir is the third most populated city of Turkey with a population of approximately 4.2 million.

Aim: The purpose of this study was to define the baseline disorders causing low vision and blindness in accordance with World Health Organization criteria in an adult population in Izmir.

Methods: We evaluated the ophthalmologic reports of 20 790 people in Izmir, Turkey. Age- and sex-specific causes of low vision and blindness were identified.

Results: Bilateral low vision and blindness was detected in 347 people, 172 males and 175 females. For those aged 18–50 years, retinal dystrophies (37%), congenital eye anomalies (14%) and myopic degenerations (13%) were the most common causes. For those aged 50+ years, age-related macular degeneration (21%) was the leading cause. Diabetic retinopathy (17%), corneal opacities (14%), cataract (12%) and glaucoma (9%) were also important. Sex was not a significant determinant.

Conclusion: The specific causes of visual impairment vary greatly with age, however, unavoidable retinal pathologies were the predominant causes at all ages.

Keywords: Blindness, low vision, adults, Izmir

Citation: Koc F; Erden VE; Sefi-Yurdakul N. Causes of low vision and blindness in a Turkish adult population: the Izmir eye study. East Mediterr Health J. 2018;24(2):161–168. https://doi.org/10.26719/2018.24.2.161.

Received: 12/04/16; accepted: 08/03/17

Copyright © World Health Organization (WHO) 2018. Some rights reserved. This work is available under the CC BY-NC-SA 3.0 IGO license (https://creativecommons.org/licenses/by-nc-sa/3.0/igo).

Introduction

Low vision and blindness are important public health problems. Persons with visual impairment usually need support and assistance unless they get vision rehabilitation with the provision of low vision devices, orientation and mobility training and counselling for making specific modifications in their living environment for proper adaptation towards performing day to day activities and social integration. This process requires extra costs for both families and the community. Data from the Institute for Health Metrics and Evaluation data about Turkey showed that sense organ diseases were the second leading cause of years lost due to disability in 2015 (1). However, there have been no reliable data showing either the baseline causative disorders of visual impairment or the burden of these disorders on the population in Izmir region.

Izmir is the third most populated city of Turkey with a population of approximately 4.2 million. It is located in the south-west of the country. Life expectancy is 74.6 years for males and 80.5 for females. Around 27% of the population is over the age of 50 (2,3).

The purpose of this study was to define the baseline disorders causing low vision and blindness in adult population of Izmir in accordance with World Health Organization (WHO) criteria (4).

Methods

The medical records of 20 790 people aged ≥ 18 years who were admitted to Atatürk Education and Research Hospital health council to get a health certificate between January 2012 and December 2013 were reviewed retrospectively after the study protocol was approved by the ethics committee.

Common reasons for attending the health council were to get a health report to be a candidate for certain academies and professions, to move nursing homes, to get a driving licence, to receive disability benefits (e.g. tax discount, nursing services at home, financial support assistance) and to be included in the employment quota for disabled people.

All attendees had basic ocular examinations, including visual acuity testing, slit lamp examination with a dilated posterior segment examination and intraocular pressure measurement. If the visual acuity level was less than 20/20, it was retested with the autorefraction result in a trial frame to obtain the best-corrected visual acuity. If a psychogenic visual acuity loss was suspected, it was retested using several tests for evaluation of psychogenic visual loss. If the level of obtained visual acuity was not correlated with the ocular findings of the subject, a pattern visual evoked potential test was ordered. Subjects were referred for visual field screening using the Humphrey Perimeter Central 30-2 Swedish Interactive Threshold Algorithm when there was pathology affecting the visual field. Ocular ultrasonography was ordered when the optical medium was not clear enough to visualize the retina, and optical coherence tomography was ordered if macular or optic disc pathology was suspected.

Definitions of low vision and blindness

The WHO categories of visual impairment were used for this study (4). Visual acuity levels were converted into the logarithmic scale equivalents using available conversion charts to classify patients according to the WHO criteria. Low vision was defined as best-corrected visual acuity in the better eye