

Analysis of the Eye Clinic Visits of Syrian Immigrants at a State Tertiary Hospital

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ABSTRACT

The aim of this study was to investigate the demographic and clinical characteristics of Syrian immigrants visiting an ophthalmology clinic, and to evaluate the causes of severe vision loss and blindness in this population.

The data of 1,498 Syrian patients who presented to our clinic with eye complaints between January 2013 and January 2019 were analyzed retrospectively. The cases were divided into three groups based on age: under 18, 18–65, and over 65 years old. Their diagnoses, severe vision loss incidences, and causes of blindness were investigated.

The mean age was 36.15 ± 23 (0–91) years old, with 385 (25.7%) of the patients under the age of 18, 780 (52.1%) between the ages of 18 and 65, and 333 (22.2%) over 65 years old. In all three groups, the most common reasons for admission were treatable conditions, such as conjunctivitis, blepharitis, and dry eye. The most important cause of severe vision loss under the age of 18 was a refractive error, while the most important cause of blindness was a congenital cataract. Cataracts were the most important causes of severe vision loss in the 18–65 and over 65 years old age groups, while the most important causes of blindness were traumas and cataracts.

By providing immigrants with fast, easy, and free access to health care services, the severe vision loss and blindness rates can be minimized.

Key Words: Blindness, eye healthy of migrant, Syria, vision loss, war

Introduction

The Syrian civil war, now in its ninth year, has caused millions of people to leave Syria, and it is currently the greatest humanitarian crisis of the 21st century. Since 2011, 6.6 million people have migrated to neighboring countries, such as Lebanon and Jordan, and beyond, particularly Turkey. The most popular country for admitting immigrants over this time period has been Turkey. According to the January 2019 United Nations Refugee Agency data, there are over 3.6 million Syrian refugees living in Turkey (1). Many of the humanitarian needs of the refugees, such as shelter, food, health care, and education, need to be met. This situation creates heavy economic burdens on the countries receiving them.

After shelter, the most pressing needs of the refugees are health care services. During this process, civilians face many acute and chronic health problems, both related and unrelated to the war. It has been recognized that wars increase the frequency of ocular injuries seen in civilians (2). However, not only ocular war injuries but, especially in children and elderly civilians who are prevented or delayed from accessing health care services in their own country, preventable blindness from cataracts, refractive defects, corneal

disorders, premature retinopathy, glaucoma, diabetic retinopathy, and age-related macular degeneration can also occur.

The aim of this study was to analyze the demographic and clinical characteristics of the Syrian immigrants who visited eye care clinics in our province, and to evaluate the costs of these health care services. In addition, a further aim was to investigate the causes of severe vision loss and blindness in these children, adults, and elderly patients.

Materials and Methods

In this retrospective descriptive study, the data of 1,498 Syrian patients who presented to the Ophthalmology Clinic of the SBU Diyarbakır Gazi Yaşargil Training and Research Hospital between January 2013 and January 2019 were analyzed. The principles of the Helsinki Declaration were followed, and approval from the SBU Diyarbakır Gazi Yaşargil Training and Research Hospital ethics committee was obtained for this study (29/07/2019-2019/338).

The file records and electronic data of the patients were analyzed using a computer, and the ages, genders, diagnoses, visual acuities, treatment types (surgical and medical), and costs were compiled. The

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patients were divided into three groups according to their ages: under 18, between 18 and 65, and over 65 years old. The diagnoses of disease, severe vision loss, and blindness were investigated in each of the groups. According to the World Health Organization's (WHO) 2018 classification, severe vision loss was defined as a vision level worse than 6/60, and blindness was defined as a vision level worse than 3/60 (3). The data on the treatment types and the total costs were collected.

All of the statistical analyses were performed using IBM SPSS Statistics for Windows, version 22.0 (IBM Corp., Armonk, NY, USA). The continuous variables were expressed as the mean \pm standard deviation and the minimum and maximum values, while the categorical variables were expressed as frequencies and percentages.

Results

Of the 1,498 patients included in this study, 859 (57.3%) of the patients were males and 639 (42.7%) were females. Their mean age was 36.15 ± 23.0 (0–91) years old, with 385 (25.7%) of the patients under the age of 18, 780 (52.1%) between 18 and 65, and 333 (22.2%) over 65 years old. The number of patients with conjunctivitis, conjunctival degeneration and accumulations, cysts, pterygium, blepharitis, hordeolum, chalazion, and other defined inflammations of the eyelid was 933 (62.2%), while 32 (2.1%) of the patients had war-related penetrating eye injuries. The diagnoses, according to the age ranges, are summarized in Table 1. In all 3 groups, the most common reason for admission was for medical treatment, such as conjunctivitis, blepharitis, and dry eye (73.5%, 67.8%, and 36.3%, respectively). The most common war-related penetrating eye injuries were in the 18–65 years old age group (62.5%). Overall, 90 (6%) patients had severe vision loss, and 59 (3.9%) patients were blind (Table 2). In the under 18 years old age group, the most prevalent cause of severe vision loss was refractive defects; it was cataracts in both the 18–65 and over 65 years old age groups. The most significant causes of blindness were congenital cataracts, traumas, and cataracts, respectively. During the 6-year period, 143 (9.5%) of the patients underwent surgical interventions (32 perforation repairs, 55 cataract surgeries, 13 strabismus surgeries, 6 retinal decollements, 5 vitreous hemorrhages, 5 glaucoma surgeries, 10 probing or dacryocystorhinostomies, and 17 eyelid disorders, such as ptosis, ectropion, or entropion). The total cost of treating the 1,498 patients was 119,439.12 Turkish Lira.

Discussion

According to Article 14 of the Universal Declaration of Human Rights: “Everyone has the right to seek and be granted asylum from persecution in other countries” (4). Furthermore, Article 25 of the same declaration states: “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, and medical care” (4).

Syria experienced a huge wave of emigration at the start of the civil war, and Turkey has been the country most affected by this wave of refugees because of its geographical location. Although the registered immigrants in Turkey have resulted in a serious economic burden, they can easily access shelter, education, and health care services. Syrian migrants are treated free of charge in primary, secondary, and tertiary health care facilities for acute or chronic diseases, in accordance with the Turkey Health Practices Communiqué (5).

There are previous studies in the literature on the health statuses and access to various health care services of Syrian immigrants in Turkey (6-13). In addition, ocular injuries associated with the Syrian war have been reported in several studies, including one in which the causes of blindness of Syrian immigrants living in Turkey were reported (14-16). However, to our knowledge, this is the first clinical study with a large patient sample reported in Turkey that describes the epidemiology of the ophthalmology treatments accessed by Syrian refugees with and without war injuries.

The automatic weapons used in wars and shrapnel pieces scattered in explosions can cause serious ocular traumas (17). Ocular traumas are some of the most prevalent causes of severe vision loss (18). In war-related penetrating injuries, the possibility of an intraocular foreign body is increased, and the lapse before access to treatment for these patients in war environments may result in more severe vision loss (19). Furthermore, the increasing use of chemical and laser weapons in recent years can also cause serious vision loss (20,21). When we look at the literature, war-related ocular injuries have been reported in many studies, including those relating to the Syrian war (14,15,22-32).

Among the published studies from Turkey, Gürler et al. reported that they performed surgeries due to intraocular foreign body injuries on 78 individuals brought into the country due to the civil war in Syria between 2011 and 2014, and visual improvements were achieved in 82% of these patients (14). They also reported that, while the majority of the patients

Table 1. Clinical Diagnosis of the Patients According to age Range

	<18 year (n:385) (25.7%)	18-65year (n:780) (52%)	>65 year (n:333) (22.3%)	Total (n:1498) (100%)
Refractive errors (myopia,hyperopia,astigmatism,presbyopia)	45	83	23	151
Blepharitis,hordeolum,chalazion and other eyelid inflammation	95	175	40	310
Eyelid disorders (ectropion,entropion,trichiasis,pitosis,blepharochalasis, lagophthalmos)	7	18	14	39
Conjunctivitis,conjunctival degeneration and accumulations,cysts,pterygium	155	160	38	353
Keratitis, corneal scars and opacities,bullous keratopathy,hereditary corneal dystrophies,keratoconus	10	10	13	33
Other disorders of lacrimal gland	33	194	43	270
Dacryoadenitis, Lacrimal stenosis or obstruction	8	7	9	24
Acute or chronic iridocyclitis	1	3	0	4
Glaucoma	-	11	17	28
Cataract	4	23	52	79
Strabismus	15	8	2	25
Macular and posterior pole degeneration	-	11	32	43
Retinal detachment and tears	-	4	2	6
Retinal vascular obstructions	-	5	9	14
Diabetic retinopathy	-	7	15	22
Vitreous Hemorrhage	-	4	1	5
Optic neuritis,papilledema,optic atrophy,other disorders of optic disc	-	3	7	10
Conjunctival and corneal foreign bodies	9	34	7	50
Penetrating eye injury	3	20	9	32

with war-related intraocular foreign bodies were adult males, females and pediatric patients were also present (14). Kılıç et al. reported that, in 2016, 13 patients with conjunctivitis, 9 with photophobia, and 8 with blepharospasm and corneal opacities were affected by chemical attacks using sulfur mustard gas in Al-Bab, Syria (15). In addition, they reported corneal erosion and periorbital and palpebral edema in 5 patients and temporary vision loss in 4 patients (15). In our study, there were 32 (2.1%) patients who were admitted to our hospital by the Turkey Disaster and Emergency Management Directorate (AFAD) due to penetrating eye injuries related to the Syrian war in the 6 years that we assessed, but none of these patients had intraocular foreign bodies. This is because the patients with intraocular foreign bodies were referred to other centers by the AFAD in order to be operated on due to the absence of foreign body forceps in our clinic. However, 12 patients (37.5%) who underwent surgeries developed severe vision

loss, and 13 patients (40.6%) developed blindness due to globe perforations. Only 7 (21.9%) of those patients had good visual improvement. We believe that this is related to the fact that the time taken to reach our clinic after receiving a war injury is long, and war-related ocular injuries are more complicated and dirtier injuries. The majority of our patients with war-related penetrating eye injuries were adult males, as in the study by Gürler et al., but they were present in children and women as well (14).

Wars cause not only acute injuries, but they also prevent access to health care services, leaving many diseases untreated. In other words, wars can cause serious vision loss due to an inability or delay in reaching medical care and treatment in cases of refractive errors, diabetic retinopathy, age-related macular degeneration, glaucoma, and cataracts.

According to the WHO's 2018 data, attacks against health care facilities and health care personnel have increased in Syria, especially in recent years (33). For

Table 2. Causes of Severe Vision Loss and Blindness by age Range

	<18 year (n=30) (20.1%)	18-65 year (n=52) (34.9%)	>65 year (n=67) (45%)	Total (n=149) (100%)
Causes of severe vision loss	Refraction errors:17	Cataract:15	Cataract:13	
	Corneal scar:2	Trauma:7	Age related macular degeneration:9	90
	Keratoconus:2	Age related macular degeneration:6	Diabetic retinopathy:7	
	Trauma:1	Diabetic retinopathy:5	Trauma:4	
Causes of blindness	Kongenital cataract:4	Keratoconus:2 Trauma:1	Cataract:21	59
	Corneal scar:2	Retinal detachment:4	Age related macular degeneration:7	
	Trauma:2	Corneal scar:2	Bullous keratopathy:3	
			Glaucomatous optic atrophy: 3	

n: Number of subjects

this reason, the majority of the health care personnel have been forced to leave the country (33). In addition, those Syrians who have had difficulties covering their most basic needs, such as shelter, education, and health care, since the first years of the war, made the decision to leave their country. Since 2013, 1,498 Syrian patients have been admitted to our clinic. According to the Ministry of the Interior General Directorate of Migration Management, there are 33,646 Syrian immigrants registered in our province (34). Therefore, approximately 4.5% of the Syrian immigrants in our province presented to our hospital with various eye complaints in a 6-year period of time. The causes of most of the admissions of these patients, including conjunctivitis, blepharitis, shallots, and dry eye, were corrected by simple medical treatments. However, the number of patients we received with severe vision loss and blindness was also considerable. Vision loss and blindness are among the most significant public health problems in refugee communities (35). In one study conducted in Turkey that investigated the causes of the vision loss of Syrian immigrants, it was reported that 69 (27.3%) of 253 Syrian immigrants suffered blindness and 15 (5.9%) had severe vision loss, with the most important cause of blindness being cataracts (16). In our study, the rate of severe vision loss was 6%, and

the blindness rate was 3.9%, with cataracts being the most common causes of both (31.1% and 42.37%, respectively). The most important cause of severe vision loss in children was refractive error (77.2%), while the most important cause of blindness was congenital cataracts (50%). Cataracts were the most common causes of severe vision loss in the 18–65 and over 65 years old age groups (42.8% and 39.3%, respectively), while traumas (64.7%) and cataracts (61.7%) were the most common causes of blindness.

The major strength of our study was that it had a large patient population, but the most important limitation was that it was from a single center. Considering that more than 3.6 million registered Syrian refugees live in Turkey, the avoidable blindness rates of the Syrian immigrants in our country are much higher than the costs of the treatment services.

It is clear that wars cause a serious threat to eye health by delaying or preventing the treatment of many acute and chronic eye diseases, in addition to direct ocular traumas. The majority of the severe vision loss and blindness cases among these immigrants can be treated with glasses or cataract surgery, thereby minimizing the preventable blindness rates.

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