

## A Single Center Experience of Refugees in a Developing Country

### Gelişmekte Olan Bir Ülkede Mültecilerin Tek Merkez Deneyimi

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#### ÖZ

**Amaç:** Komşu ülkelerdeki iç savaşlar ve kötü yaşam koşulları nedeniyle mülteci sayısı artmaktadır. Bu çalışmada hastanemize başvuran mültecilerin demografik verilerinin ve başvuru sebeplerinin incelenmesi amaçlanmıştır.

**Gereç ve Yöntem:** 2015 ve 2019 yılları arasında ayaktan başvuran ve yatırılarak takip edilen tüm mülteci kayıtları hastane otomasyon sisteminde değerlendirildi. Yıllar içinde toplam hasta sayısı, tekrarlayan başvurular, hastaların yaşı, cinsiyeti, uyruğu parametreleri kaydedildi. Enfeksiyon hastalıkları kliniğinde yatış nedenleri ve aşı ile önlenebilir hastalık bulunup bulunmadığı araştırıldı.

**Bulgular:** 5 yıllık süreçte toplam 92558 hasta 261095 kez hastaneye başvurdu. Tekrarlayan başvuru oranı %59 (2017) ile %84 (2019) arasında değişmekteydi. Hastaların yarısından fazlası 20-39 yaşları arasındaydı ve %48'i erkekti. Suriyeli mültecilerin oranı her zaman %60'ın üzerindedi. 2015 yılında yataklı servislerde izlenen hasta sayısı 1.407 iken 2019 yılında 7.109 oldu. 2019 yılı itibarı ile dahili birimler poliklinik başvurularında 4 kat, cerrahi birimler poliklinik başvurularında 2,5 kat artış olmuştu. Yıllara göre doğum sayısı sırasıyla 479, 881, 850, 2651 ve 3091 olarak belirlendi. Erişkin ve çocuk enfeksiyon hastalıkları kliniklerinde en sık hastaneye yatış nedenleri pnömöni ve gastroenterit iken; hastaların 25'ine akut viral hepatit, 21'ine aşı ile önlenebilir hastalık, 11'ine mukokutanöz leishmaniosis ve 4'üne sıtma tanısı konmuştu.

**Tartışma:** Hastanemize başvuran mülteci sayısı artmaktadır. Doğum sayısı, hastaneye yatış ve ameliyat sayısı başvuru sayısı ile orantılı olarak artmaktadır. Mültecilerin yaşam koşullarının iyileştirilmesi ve gerekli aşıların yapılması koruyucu hekimlik açısından önemini korumaktadır. Mülteciler arasındaki yüksek doğurganlık oranı, doğum kontrol yöntemleri hakkında bilgi eksikliğinden kaynaklanıyor olabilir. Ayrıca nüfus yapısındaki bu artış, Türkiye'nin demografik yapısındaki değişimin hızını da ortaya koymaktadır.

**Anahtar kelimeler:** Mülteciler, enfeksiyon hastalıkları, aşılama, doğum hızı, gelişmekte olan ülkeler

#### ABSTRACT

**Objective:** Due to the civil wars and bad living conditions in neighboring countries, the number of refugees has been increasing. In this study, it was aimed to examine the demographic data of the refugees who admitted to our hospital, and the reasons for their admissions.

**Material and Methods:** All refugee records that admitted to outpatient and inpatient clinics between 2015 and 2019 were evaluated from the hospital automation system. Over the years, parameters such as total number of patients, and repeated admissions, age, gender, and nationality of the patients were recorded. The reasons for the hospitalization in the Infectious Diseases Clinic and whether there were any vaccine-preventable diseases were investigated.

**Results:** In a 5-year period, a total of 92558 patients admitted to the hospital for 261095 times. Recurrent admission rate ranged from 59% (2017) to 84% (2019). More than half of the patients were between the ages of 20-39 and, 48% were male. The percentage of Syrian refugees was always above 60%. While the number of patients followed in inpatient clinics was 1.407 in 2015, it was 7.109 in 2019. By 2019, there was a four-fold increase in internal outpatient and 2.5-fold increase in surgical outpatient clinic admissions. The number of births has been determined as 479, 881, 850, 2651 and 3091, respectively over the years. Pneumonia and gastroenteritis were the most common reasons for hospitalization in adult and pediatric infectious diseases clinics; of the patients, 25 were diagnosed with acute viral hepatitis, 21 were vaccine-preventable diseases, 11 were diagnosed with mucocutaneous leishmaniosis, and four patients with malaria.

**Conclusion:** The number of refugees referred to our hospital has been increasing. The number of births, hospitalizations and operations increases in proportion to the admission numbers. The improvement of the living conditions of the refugees and the necessary immunization remain important for preventive medicine. The high fertility rate among refugees may be due to the lack of knowledge about birth control methods. In addition, this increase in the population structure reveals the speed of the change in the demographic structure of Türkiye.

**Keywords:** Refugees, infectious diseases, vaccination, birth rate, developing country

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## INTRODUCTION

Migration affects millions of people all over the world who want to leave or are forced to leave their country of origin. Health is an important aspect of migration, highly influenced by the conditions created by this mobility within or between countries (1). In recent years, the civil war, caused by economic, social, and political events in Syria, has killed millions of people, injured or forced to leave their countries. Ongoing mass migration makes the camps for refugees insufficient; so many Syrians coming to Turkey are forced to live outside the camp using their resources (1). Although some of the Syrian refugees live in carefully designed camps, 60% of all refugees in the host countries live outside these specially designated camps (2).

Organized health care for Syrian refugees in Turkey has been established for the first time on 29 April 2011 in Hatay (2). As of May 2019, Turkey was also reportedly registered in Syria's number 3,606,737 as refugees. 1,953,126 of them are men and 1,653,611 of them are women. According to the age table, the average age of registered Syrians is 22.5, and 46% of Syrians in Turkey is 0-18 age range (3). Nutritional problems in children, growth and development deficiencies, anemia, physical violence, sexual abuse, risky pregnancies, miscarriages, birth complications, mental problems, depression, anxiety, sleep and post-traumatic stress disorders and dental health have been observed on the refugees (4). The most commonly reported non-communicable diseases in Syrian refugees are anemia, cancer, hypertension, diabetes, malnutrition, kidney diseases, and blood diseases. About half of the refugees over the age of 60 have a chronic disease (5).

A traumatic injury in 5.7% of the refugee population in Turkey; 58% of these injuries were bomb and firearm injuries, 25% consists of falls and burns. It is also known that hundreds of people have lost or been injured after a chemical attack (5).

In our country, another group of diseases that are increasing after the refugees are infectious diseases. After the Syrian Refugees, the cases of child paralysis that we have eliminated in the last 15 years have started to be seen again. An increase in the number of cutaneous leishmaniasis and multidrug-resistant tuberculosis cases has also been reported (5).

Both the pre-migration environment and the poor living conditions in the post-migration environment and immunization deficiencies in the younger age group play a role in the increase of these numbers (5). As of May 2019,

the number of Syrian refugees living in Kayseri is 77,781 (3). With the increase in the number of refugees over the years, the number of admissions to our hospital is increasing.

This study aimed to investigate the demographic data and the reasons for the application of the refugees admitted to our hospital between 2015 and 2019.

## METHOD

This retrospective study was performed in Kayseri City Hospital in Central Anatolia, which accepts patients from surrounding cities. Kayseri City Hospital is a tertiary health-care institution with a capacity of 1,600 beds and serving 750,000 outpatient clinic patients annually.

All refugee records admitted to hospital outpatient and inpatient clinics between 2015 and 2019 were evaluated from the hospital automation system. Patients whose data and hospitalizations could not be reached were excluded from the study.

The total number of hospital admissions, the total number of patients, and the percentage of recurrent visits were calculated over the years.

The age, gender, the nationality of the patients included in the study, admission type of outpatient clinics such as emergency department, internal and surgical outpatient clinics were analyzed. The classification of patients according to nationality was obtained as Afghanistan, Iraq, Iran, Pakistan, Syria, and others. Patients were classified according to age groups as 0-19, 20-39, 40-59, 60-79, > 80 years. The classification of patients followed up in the intensive care unit was made as internal, surgical, and burn intensive care units. The number of births in the hospital and the change patterns of over the years was calculated. The change of the inpatients in the infectious diseases clinics and the change in the rate of vaccine-preventable diseases over the years were calculated.

This study was approved by the Erciyes University Clinical Research Ethics Committee with the decision number of 2019/586.

## RESULTS

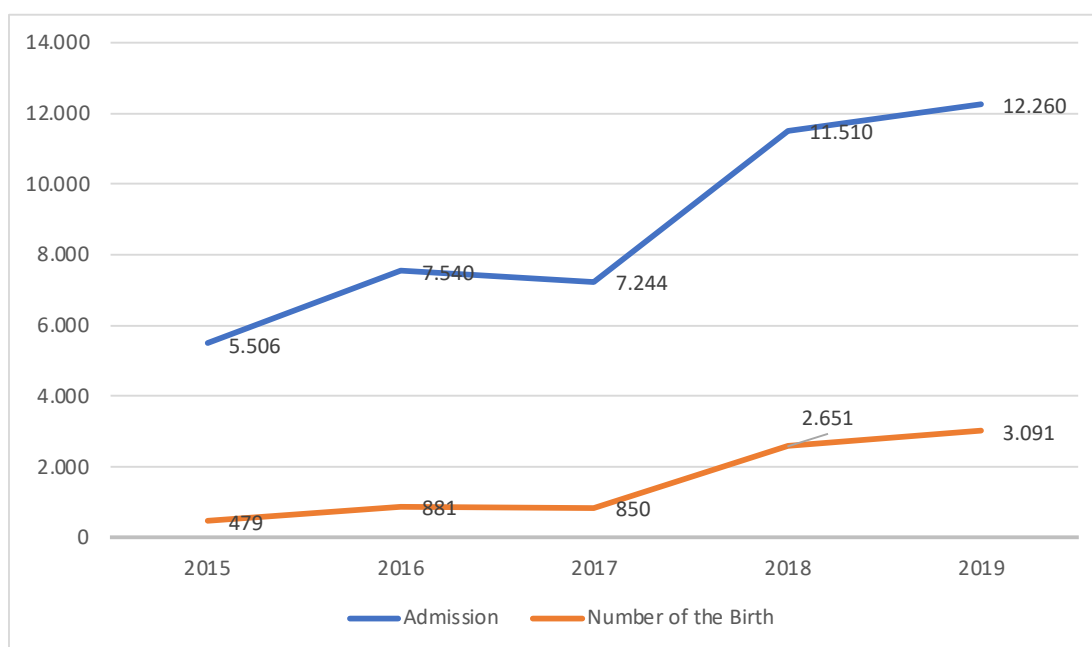
The number of hospital admissions, patients, and recurrent admission rates was shown in table 1. According to the table while the total number of admissions was 25,196 in 2015, it increased to 81,300 in 2019. Recurrent admission rates ranged from 59% (2017) to 84% (2019). Of the

patients 48% were male. Age distribution was % 25 0-19 years, % 52 20-39 years, % 17 40-59 years, % 5 60-79 years, % 0.5 > 80 years (Figure 1).

The percentage of Syrian refugees is always above %60; it was also seen that there were citizens of Iraq, Iran, and Afghanistan (Table 2).

While the number of patients followed in inpatient clinics was 1,407 in 2014, it was 7,109 in 2019. The number of patients followed in the intensive care unit was 14 in 2015 and 212 in 2019. It was observed that a total of 646

patients were followed up in the burn clinic and intensive care units in five years. The number of admissions to surgical outpatient clinics in 2015 was nearly twice that of internal medicine outpatient clinics (5,294; 10,664). By 2019, there was a 4-fold increase in internal medicine outpatient admissions and a 2.5-fold increase in surgical outpatient admissions. When the admission types were evaluated, forensic examination 2,380, emergency examination 29,200, trauma was found to be 13,406 in 5 years period (Table 3).



**Figure 1:** Number of admissions to the obstetrics outpatient clinic and the number of births over the years

**Table 1:** Number of hospital admissions, patients, and recurrent admission rates over the years

Years	Number of the patients	Number of the admissions	Recurrent admissions rate (%)
2014	9,536	25,196	66.1
2015	13,431	36,903	68.7
2016	13,521	37,100	58.6
2017	31,770	80,596	63.5
2018	24,300	81,300	83.6
Total	92558	261095	

**Table 2:** Distribution of the patients by country of origin

Years Country	2015	2016	2017	2018	2019
Syria	6,840 (71.7%)	8,500 (63%)	11,254 (83.2%)	24620 (77.4%)	20,710 (85.2%)
Iranian	816 (8.5%)	434 (3.23%)	726 (5.36%)	1815 (%5.7)	638 (2.62%)
Iraq	477 (5%)	427 (3.17%)	704 (5.20%)	2740 (8.6%)	1,340 (5.51%)
Afghanistan	301 (3.15%)	165 1.22(%)	191 (1.41%)	542 (1.7%)	237 (0.97%)
Other	1,102 (11.5%)	3,905 (29%)	646 (4.77%)	2,053 (6.4%)	1,375 (5.65%)

**Table 3:** Distribution of admissions by branches over the years

	Internal outpatient clinics	Surgical outpatient clinics	Internal clinics	Surgical clinics	Intensive care unit and burn	Forensic examination	Emergency examination	Trauma
2015	5,294 (8%)	10,664 (10.6%)	292 (6.5%)	1,115 (6.3%)	14 (2.1%)	397 (16.6%)	4,138 (14.1%)	1,428 (10.6%)
2016	6,345 (9.7%)	13,827 (13.7%)	412 (9.2%)	2,022 (11.5%)	25 (3.8%)	339 (14.2%)	5,774 (19.7%)	2,543 (18.9%)
2017	9,182 (14%)	14,972 (14.9%)	367 (8.2%)	1,643 (9.4%)	18 (2.7%)	139 (5.8%)	4,664 (15.9%)	1,764 (13.1%)
2018	21,033 (32%)	33,561 (33.4%)	1,977 (44.4%)	6,797 (38.9%)	377 (58.3%)	772 (32.4%)	7,448 (25.5%)	3,984 (29.7%)
2019	23,527 (36%)	27,239 (27.1%)	1,399 (31.4%)	5,710 (32.6%)	212 (32.8%)	733 (30.7%)	(24.5%) 7,176	3,687 (27.5%)
Total n(%)	65318 (100%)	100262 (100%)	4447 (100%)	17469 (100%)	646 (100%)	2380 (100%)	29200 (100%)	13406 (100%)

The number of births over the years was determined as 479, 881, 850, 2651, and 3091, respectively. The number of admissions to the obstetrics outpatient clinic and the number of births over the years were shown in (Figure 2). Accordingly, it was observed that the number of admissions to the obstetric outpatient clinic and births increased similarly.

Pneumonia and gastroenteritis were the most common reasons for hospitalization in adult and pediatric infectious diseases clinics (Table 4); of the patients, 25 were diagnosed with acute viral hepatitis, 21 patients with a vaccine-preventable disease, 11 patients with mucocutaneous leishmaniasis and 4 patients with malaria.

## DISCUSSION

It was seen that, from 2015 to 2019, the total number of patients, the total number of admissions, and the admission rate per patient increased. In a study in which Syrian

refugees' admissions to the emergency room were evaluated retrospectively between 2013 and 2017, the total number of admissions was reported as approximately 42,000. It is also stated that the number of admissions made in 2017 was more than one-third of the local people (6). In another study Altiner et al. , also support this idea by showing that 126 of 133 ambulance stations in Ankara responded to Syrian refugee calls from January 2013 to June 2015 (7). The increasing number of hospital admissions over the years made us think that refugees' access to health facilities has become easier over time.

When the demographic data of the patients were evaluated, it was seen that 48% of them were male and almost half of them were between the ages of 20-39. According to the data as of May 2019 our country with Turkey, Syria also registered 'with the number of refugees was reported as 3,606,737, and gender distribution was reported to be close to each other.

**Table 4 :** Distribution of patients hospitalized in the pediatric and adult infectious diseases clinics over the years

	2015 (n=38)	2016 (n=39)	2017 (n=32)	2018 (n=57)	2019 (n=45)
Pneumoniae	11	15	12	15	15
Gastroenteritis	6	5	8	10	6
Acute viral hepatitis	4	6	4	5	6
Urinary tract infections	5	4	3	5	4
Malaria	2			2	
Vaccine-preventable diseases	3	2	2	8	6
Mucocutaneous leishmaniosis	1	2		6	2
Other	6	5	3	6	6

In similar studies reported from our country, the average age was 24 for emergency departments; 41.5 years for admissions with neurological complaints, and 46 years for admissions to intensive care units (8,9,10). According to 2019 data, the average age of registered Syrians was 22.5 and 46% were between the ages of 0-18 (11). As a result of demographic data, age and gender distribution are compatible with the data of our country.

When patients were classified according to their nationalities, while Syria was the highest with 71.7% in 2015, this rate dropped to 40.9% in 2016, and the rate of Afghanistan-Iraqi-Iranian-non-Syrian nationals increased by 39.9%. Wars and socioeconomic conditions in refugee countries and the geopolitical position of our country play an important role in this increasing.

The number of admissions to the obstetric outpatient clinics and the number of births also increased significantly over the years. In a study comparing the pregnancy process and birth of 7950 Turkish and 620 Syrian pregnant refugees, the average age of Syrian refugees was reported to be lower. Also, the rate of preterm delivery and normal vaginal delivery was higher in Syrian pregnant; it was stated that the median birth weight was lower and the rate of an infant below 2500 g was higher (12). In another study comparing Syrian refugees and Turkish pregnant, it was reported that adolescent pregnancies rate was higher in Syrian refugees (13). Increasing the rate of admissions to obstetric clinics is important for timely and rapid interventions for perinatal complications.

Over the years, the number of admissions to both the in-

ternal and outpatient clinics has increased. When the subgroups are examined, from internal units to psychiatry; from the surgical units to plastic and reconstructive and obesity surgery units showed an increasing course. In a study examining the psychological effects of wars and migrations on refugees, 420 African migrants reported traumatic events, depressive symptoms, and post-migration stress disorder and financial anxiety (14). In a study on 66 Afghan Refugees living in Australia, 41% of women refugees reported having depressive symptoms, while other symptoms were loneliness and physical inactivity (15). The increasing number of admissions to psychiatry, plastic surgery, and obesity surgery have shown us that urgent needs are now met, and that psychosocial health can be prioritized by improving living conditions.

In this study, when the admissions of adult and pediatric age group infections were grouped, the most common diagnoses were pneumonia, gastroenteritis, acute viral hepatitis, and urinary system infection. A study of Tayfur et al. reported the most common infections as gastroenteritis (watery and bloody diarrhea), hepatitis A and respiratory infection. In the literature, since the beginning of the Syrian crisis, some of the infectious diseases expressed such as multidrug-resistant gram-negative bacterial infections, tuberculosis, measles, leishmaniasis, diarrheal diseases and the reemergence of infections including hepatitis A (2). In a study in which 430 immigrant children were examined in Malaysia, it was reported that 13% of cases had latent tuberculosis infection (16). Besides, there was a significant increase in cases of measles in our country after the Syrian war (17). Over the years, it has been observed that infectious disease clinics have seen patients associated with

very rare diseases that can be prevented by vaccination, also malaria, and mucocutaneous leishmaniasis. Between 2012 and 2015, it was stated by the Public Health Service of the Ministry of Health of Turkey that serious cases of leishmaniasis were recorded among Syrian refugees in a total of 5,495 cases (18). These findings suggest to us, for all migrant children shows the importance of providing access to free health care and vaccination services. Especially, the increase in the frequency of hepatitis A in many studies makes us think that sanitation conditions are not sufficient, and care should be taken in this respect (2,18,19).

## CONCLUSION

The number of refugee patients applying to our hospital has been increasing over the years. The number of births, hospitalizations, and operations increases in proportion to the application numbers. The high fertility rate among refugees may be due to the lack of knowledge about birth control methods. In addition, this increase in the population structure reveals the speed of the change in the demographic structure of Türkiye. The improvement of the living conditions of the refugees and the necessary immunization remain important for preventive medicine.

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