

Changes Occurring in Health Services Provided to Syrian Refugees Between 2017-2023 and the Current Situation after the Kahramanmaraş Earthquake

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Abstract

Objective: The number of Syrian refugees increased day by day. In this study, the changes in health services provided to Syrian refugees in Türkiye between 2017 and 2023, and the current situation of refugees after the Kahramanmaraş earthquakes were investigated.

Materials and Methods: In this retrospective, descriptive, observational epidemiological study, the changes occurring in the demographic structure and healthcare field over the above-mentioned years were examined based on the reports and statistics published by various national and international institutions and organisations.

Results: Among Syrian refugees in the world, 64.6% live in Türkiye. More than 6,600 Syrian refugees died in the Kahramanmaraş earthquake. It was observed that the number of refugee camps and the health services provided in these camps decreased until the Kahramanmaraş earthquake.

Conclusion: The settlement of Syrian refugees in Türkiye for more than 12 years has caused changes in various areas of life in Türkiye. It was observed that the number and quality of health services provided to Syrian refugees increased at a rate greater than the increase in the population of Syrian refugees between the years 2017-2023. Moreover, the natural disasters occurring in Türkiye have also affected the living conditions of refugees.

Keywords: Syrian refugees, Kahramanmaraş earthquake, health care systems, access to health services, displaced persons

Introduction

Following the two earthquakes that occurred in Kahramanmaraş on February 6, 2023, an event regarded as the disaster of the century in Türkiye, 11 provinces were affected. Syrian refugees living in these provinces were also affected along with and local people. Fifty percent of Syrian refugees reside in the provinces affected by the earthquake (Kahramanmaraş, Malatya, Gaziantep, Adana, Adıyaman, Diyarbakır, Elazığ, Hatay, Şanlıurfa, Kilis, and Osmaniye). While some Syrian refugees returned to their country following the earthquake, others

continue their lives in container cities and reopened temporary accommodation centres [1].

After the Syrian civil war that broke out in 2011, citizens of that country migrated to other countries, especially the neighbouring countries. This ever-increasing migration of refugees has become a humanitarian crisis over time. As of June 2023, the total number of Syrian refugees in the world is approximately 5,291,289, and 63.5% of these live in Türkiye [2]. Between 2011 and 2016, Türkiye pursued an open border policy for Syrian refugees [3]. The increase in the number of



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Syrian refugees during the past 12 years has affected Türkiye, which hosts more than half of the world's Syrian refugees, demographically, socio-economically, and in terms of the provision of health services. The treatment of wounded people brought to Türkiye from the areas of conflict, the preventive health services provided to healthy refugees who entered the country, and to refugees born and raised in Türkiye over the past 12 years, and the treatment of the diseases occurring during this period, have led to an increase in the number of health services provided and to changes in the healthcare system.

This study investigates the current situation of Syrian refugees, changes in their living conditions after the earthquakes, changes in the demographic structures of Syrian refugees in Türkiye over the last six years, and the development of health services provided to Syrian refugees.

Materials and Methods

Study Design

In this retrospective, descriptive, observational epidemiological study, the changes that have occurred over the last six years were examined based on the reports and statistics published by various national and international institutions, and organisations, like United Nations High Commissioner for Refugees (UNHCR), the Presidency of Migration Management of the Ministry of Interior, Disaster and Emergency Management Presidency.

Study Permission

The study has been designed retrospectively and does not involve the use of any personal data of individuals, biological samples, or experimental procedures on individuals. The study was conducted in accordance with the 1964 Helsinki Declaration and did not require ethical committee approval due to the reasons mentioned above. In addition, data obtained from the statement made by the Presidency of Migration Management of the Ministry of Interior, dated 31.03.2022, were used in our analysis.

Statistical Analysis

The obtained data were compared with the data of previous years and with the world data. Descriptive statistics were created by analysing the data in the Statistical Package for the Social Sciences (SPSS) for Windows 26.0 (IBM Corporation Chicago, Illinois).

Results

Situation of Syrian refugees in Türkiye and in the World: According to the data released by the UNHCR on February 2, 2023, there were 5,422,789 Syrian refugees in the world. Among these, 64.6% (3,500,964) lived in Türkiye, 15% (814,715)

in Lebanon, 12.2% (661,670) in Jordan, 4.8% (258,541) in Iraq, and 2.7% (145,157) in Egypt [2].

When the 2017 and 2023 data are compared, the Syrian refugee population has decreased in Lebanon, while in other countries, the Syrian refugee population has increased [2,4]. When these countries are compared, it can be seen that the Syrian refugee population has increased the most in Türkiye (Table 1).

When the living areas of Syrian refugees in the world are evaluated, it can be seen that the number of Syrian refugees living in camps has decreased continuously since 2014 [2].

As of February 2, 2023, a total of 3,500,964 Syrian refugees (1,634,881 females and 1,866,083 males) were under temporary protection in Türkiye. There were 440,225 refugees under the age of 5 (212,759 female, 227,466 male), 1,658,100 refugees aged 18 and under (800,178 female, 857,922 male), and 123,190 refugees aged 60 and over (Table 1, Figure 1) [5].

Around 1.3% of Syrian refugees in Türkiye reside in Temporary Accommodation Centres affiliated with the General Directorate of Migration Management. A total of, 47,647 Syrian refugees live in 7 temporary accommodation centres in 5 provinces. According to the latest data available before the earthquake on February 2, 2023, 536,171 of the Syrian refugees living in 81 provinces resided in İstanbul, 460,150 in Gaziantep, 368,223 in Şanlıurfa, and 354,648 in Hatay. In terms of population density, there were 87,409 Syrian refugees in Kilis, representing 37.48% of the city's population [5,6].

Table 1. Number of Syrian refugees in countries of asylum in 2017 and 2023 and demographic information of Syrian refugees living in Türkiye for 2017 and 2023

Parameter	2017, Number of refugees, (%)	2023, Number of refugees, (%)
Refugee count in the World		
Türkiye	2,854,968 (58.2%)	3,500,964 (64.5%)
Lebanon	1,017,433 (20.7%)	814,715 (15%)
Jordan	655,496 (13.4%)	661,670 (12.2%)
Iraq	230,836 (4.7%)	259,584 (4.8%)
Egypt	116,013 (2.4%)	145,157 (2.7%)
North Africa/other	29,275 (0.5%)	41,742 (0.8%)
Total	4,904,021 (100%)	5,423,832 (100%)
Refugees in Türkiye		
Gender		
Female	1,571,674 (45.9%)	1,634,881 (46.7%)
Male	1,852,563 (54.1%)	1,866,083 (53.3%)
Total	3,424,237 (100%)	3,500,964 (100%)
Age groups		
Under 5	465,574 (13.5%)	440,225 (12.5%)
18 and under	1,622,590 (47.3%)	1,658,100 (47.3%)
60 and over	104,811 (3%)	123,190 (3.5%)

According to the 2021 data, 10 medical specialists, 40 medical practitioners, 4 dental practitioners, and 70 midwives-nurses worked in Migrant Health Centres located in 7 Temporary Accommodation Centres in 5 provinces. Between 2017 and 2021, 40,878,459 Syrian refugees were provided with examination and treatment services in secondary and tertiary hospitals (8,428,018 in 2017, 10,163,648 in 2018, 9,083,826 in 2019, 6,806,625 in 2020, and 6,396,342 in 2021). Among these patients, 1,560,627 (310,507 in 2017, 388,695 in 2018, 366,805 in 2019, 264,995 in 2020, and 229,625 in 2021) had surgery. Between 2017 and 2021, 25,942 Syrian refugees (5,425 in 2017, 8,484 in 2018, 5,634 in 2019, 3,461 in 2020, and 2,938 in 2021) were transported within Türkiye by ambulance. Within the scope of the vaccination programme, 5,537,388 Syrian refugees (1,435,582 in 2017, 1,135,706 in 2018, 1,199,507 in 2019, 934,373 in 2020, and 832,220 in 2021) were vaccinated between 2017 and 2021 (Table 2, Figure 2) [7].

Table 2. Camps and number of health personnel working in camps and access to health services between 2011-2016 and 2017-2021 [4,8]

Parameter	Years		
	2016	2021	Change
Camps and number of health personnel working in camps			
Number of cities where camps are located	10	5	-50%
Number of camps	26	7	-73%
Number of medical specialists	71	10	-86%
Number of medical practitioners	110	40	-64%
Number of dental practitioners	30	4	-87%
Number of allied health personnel	102	70	-31%
Access to health services	2011-2016	2017-2021	
Number of hospital admissions	815,430	40,878,459	+4900%
Number of surgical operations	686,861	1,560,627	+127%
Number of refugees transported by ambulance	31,590	25,942	-19.1%
Number of refugees vaccinated	1,804,574	5,537,388	+206%

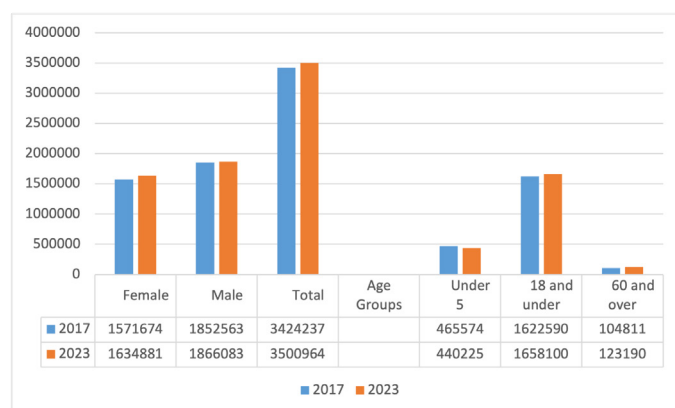


Figure 1. Gender and age distribution of Syrian refugees by year

Some refugees from Syria who have sought asylum in other countries since 2011 have also migrated from those countries for various reasons. In 2021, 36,500 Syrian refugees, including 22,300 from Türkiye, returned to their own country [8]. In addition, 25,774 Syrian refugees settled in different countries [9]. Among these, 4,200 Syrian refugees were resettled in Canada, 2,000 were resettled in the United States, and 2,600 were resettled in Sweden [8]. According to the data released on February 2, 2023, a total of 20,520 Syrian refugees were resettled in other countries between 2014 and 2023, and 10,655 of them were in Canada. Within the scope of the “one-for-one formula”, 36,789 Syrian refugees left Türkiye [5]. In 2022, 10,584 refugees applied to 13 countries for resettlement. Among these, 5,144 refugees, of whom 79% were Syrian and 8% were Afghan nationals, were resettled in 14 countries [10].

The Situation of Syrian Refugees and Changes in Their Living Conditions after the Kahramanmaraş Earthquake

It is believed that at least 15 million people, 1.7 million of whom are Syrian refugees under temporary protection, were affected by the two earthquakes that impacted 11 provinces in Türkiye and Syria [11]. The ratio of Syrian refugees residing in the earthquake area to the local population is 11.48%. Forty-five percent of the Syrian refugees residing in the region are between the ages of 0-17, while 3% are over the age of 65 [1]. It is thought that more than 6,600 Syrian refugees died in the earthquakes, in which 50,500 people died [12,13]. According to the statement made on March 27, 2023, 60,000 Syrian refugees voluntarily returned to Syria after the earthquake [14]. According to the UNHCR data, 16,000 Syrians came back to Türkiye [15]. According to the data announced on April 19, 2023, there are 3,411,029 Syrian refugees living in Türkiye [2]. Among the Syrian refugees, 531,098 reside in İstanbul, 450,115 in Gaziantep, 349,919 in Şanlıurfa, and 330,239 in Hatay. According to the data announced on 8 June 2023, there are 3,358,813 Syrian refugees living in Türkiye. Among the Syrian refugees, 531,310 reside in İstanbul, 441,125 in Gaziantep, 335,274 in Şanlıurfa, and 315,380 in Hatay [5]. It can be seen that the number of Syrian refugees residing in the earthquake area has decreased over time (Table 3).

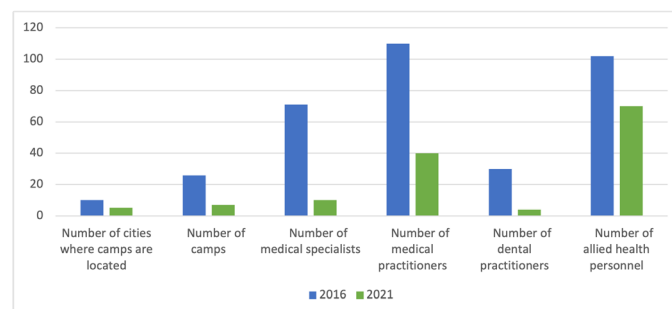


Figure 2. The number of camps housing Syrian refugees and the number of healthcare personnel working in these camps

Table 3. Population of Syrian refugees by province of residence

Place of residence	Date/Syrian refugee population				Change in one year
	02.02.2023 n (%)	19.04.2023 n (%)	08.06.2023 n (%)	01.02.2024 n (%)	
İstanbul	536,171 (15.3)	531,098 (15.57)	531,310 (15.81)	530,170 (16.66)	-1.11%
Gaziantep	460,150 (13.14)	450,115 (13.19)	441,125 (13.3)	427,563 (13.44)	-7.08%
Şanlıurfa	368,223 (10.5)	349,919 (10.25)	335,274 (9.98)	291,081 (9.14)	-20.94%
Hatay	354,648 (10.13)	330,239 (9.6)	315,380 (9.38)	275,084 (8.64)	-22.43%
Toplam	3,500,964 (100)	3,411,029 (100)	3,358,813 (100)	3,181,222 (100)	-9.13%

Various arrangements and improvements were made for Syrian refugees in line with their increasing needs following the earthquake. The number of temporary shelters, which had decreased to 7 before the earthquake, was increased to 12. While 47,647 people lived in temporary accommodation centres before the earthquake, this number increased to approximately 88 thousand after the earthquake. In line with the increasing need, 500 extra personnel were appointed in addition to the 7,000 personnel already working in these centres [1].

Discussion

Refugee Policy from Past to Present

The Ottoman Empire and later the Republic of Türkiye, frequently opened its doors to people in need of asylum and protection due to its “national understanding that protects those in need”. Türkiye, which continues to pursue this understanding today, is the country that hosts the highest number of Syrian refugees in the world. In addition to providing security, the historical and cultural ties between Türkiye and Syria, the suitable living conditions, the economy, and the number and quality of health services provided, are among the reasons why Syrian refugees migrate to Türkiye and continue their lives there [16].

Demographic Characteristics and Living Conditions of Syrian Refugees in Türkiye

In 2017, the percentage of the world's Syrian refugee population residing in Türkiye was as high as 70%, while it decreased to 64% in 2023 with the return of Syrian refugees to their own countries and their settlement in other countries [2,4]. When the years 2017 and 2023 are compared, it can be seen that the ratio between the female and male populations has not changed, while the population under the age of 18 has increased. In addition to births, the increase in the population under the age of 18 may have been due to the living conditions and healthcare facilities provided to the babies. In a study conducted by Kinik et al. [17], which evaluated the health services received by Syrian refugees, it was found that 15.8% of refugees who received health services between 2011 and 2018 were under the age of 5, while 15.4% were between the ages of 5-9. In addition, it was found that women received more

healthcare services than men, and that the group receiving healthcare was mostly women of childbearing age aged [17]. This reflects the importance given to maternal-child health and the high capacity for care in Türkiye.

When the refugee camps and the health services provided in these camps are evaluated, a decrease was seen in the number of camps and the number of health personnel working in, camps, between 2017-2021. However, an increase was observed in the number of health personnel after the Kahramanmaraş earthquake. Support for Syrian refugees under temporary protection, living in temporary accommodation centres, enabled them to transition to life outside the camps and played a role in this decrease. Syrian refugees who could not return to their country created their own living areas, and thus they integrated into social life. During this period, the healthcare needs of Syrian refugees were met in the same way as Turkish citizens, in either hospitals or community health centres and in migrant health centres specifically opened for Syrian refugees. However, the constraints in housing conditions due to the destruction experienced in 11 provinces after the Kahramanmaraş earthquake made it necessary to open the temporary accommodation centres again. This explains why the number of temporary accommodation centres, which had decreased from 26 in 2016 to 7 in 2021, increased again to 12 after the earthquake.

Health Services in Türkiye

When access to health services between 2011-2016 and 2017-2021 is compared, it can be seen that hospital admissions increased by almost 50-fold in 2017-2021 compared to 2011-2016. Although the Syrian population in 2021 was about 1.3 times the, population of 2016, it can be seen that the number of hospital admissions increased, almost 50 times between those years. It can be said that in addition to the increase in population, the development of health services, the construction of new hospitals, and the free and easy access to health services with the facilities provided to refugees, the humane approach and lack of prejudice of the Turkish people, and the coronavirus disease-2019 (COVID-19) pandemic were effective in this increase. It was observed that the number of surgical operations performed between the above-mentioned years increased by a factor of 2.2. However, a decrease was

observed in the number of refugees transported by ambulance. While the number of refugees transported by ambulance was high before 2017 due to injured people brought to Türkiye from the conflict zones in Syria during the first years of the civil war, this number has now decreased.

Acute infectious diseases are a significant public health concern in densely populated areas such as camps. In temporary housing facilities for Syrian refugees in Türkiye, a total of 1,299,209 respiratory tract infection cases were reported between 2012 and 2016. Additionally, 158,058 cases of diarrhea, including 59 cases of bloody diarrhea, were recorded. Furthermore, 1,354 cases of hepatitis A and 108 cases of active tuberculosis were identified and treated [18]. Another significant issue among infectious diseases is vector-borne cutaneous leishmaniasis, which is widely prevalent in the Aleppo and Damascus regions of Syria. In refugee camps in Türkiye, the number of reported cutaneous leishmaniasis cases was 109 in 2012, 2,835 in 2013, 1,843 in 2014, and 718 in 2015 [19]. Measles is a significant vaccine-preventable infectious disease, with a notable increase in cases observed among Syrian refugees. In 2011, 111 cases were reported among Syrian refugees. In 2012, 31 cases were detected in Syrian refugees, along with 318 local cases, whereas no local cases had been previously recorded. By 2013, the number of measles cases among Syrian refugees rose to 674, with a total of 6,731 cases reported nationwide. In 2014, 114 cases were recorded among Syrian refugees. However, following intensive vaccination campaigns, only 9 cases were identified among foreign nationals in 2016, with no local cases reported. These data highlight the spread of measles outbreaks in refugee populations and the effectiveness of vaccination programs in controlling the disease [20].

One of the most important preventive health services provided in Türkiye is vaccination. According to the data from the General Directorate of Public Health, vaccination rates were 96% for Bacillus Calmette-Guérin (BCG) vaccine, 99% for diphtheria, for diphtheria, tetanus, and pertussis 3 (DTaP3) vaccine, 99% for hepatitis B vaccine, and 97% for measles, mumps, and rubella (MMR) vaccine in 2019. When MMR vaccination rates are compared globally the rate is 97% in Türkiye, it is 96% in the World Health Organization European Region, and 85% in the world [21]. Syrian refugees in Türkiye are vaccinated according to the Turkish National Vaccination Calendar, which includes BCG, DTaP-IPV/Hib, pneumococcal conjugate vaccine, hepatitis B, MMR, chickenpox, hepatitis A, and tetanus-diphtheria vaccines. Women of reproductive age are also vaccinated for tetanus-diphtheria [22]. According to the 2019 UNICEF Annual Report, 60% of Syrian children and 98% of Turkish children received all age-appropriate vaccinations in 2018 [23]. A total of 5.5 million doses of vaccine were supplied within the scope of the SIHHAT project. By the end of June 2020, 4.2 million doses of vaccine were administered to children aged

0-59 months [24]. The number of vaccinated refugees tripled between 2017-2021 compared to 2011-2016. This increase can be explained by both the rise of Syrian refugees entering Türkiye and their inclusion in vaccination programmes under the Temporary Protection Regulation in Türkiye. Moreover, the initiation of vaccinations for COVID-19 in 2021 may also have been effective in this case.

Syrian Refugee Health Services in Other Countries

Doocy et al. [25] conducted a study in Jordan, one of the regions with a high concentration of Syrian refugees, and found that despite a high need for healthcare services, cost was a significant barrier to accessing these services. In Lebanon, Honein-AbouHaidar et al. [26] conducted a study and found that while refugees had easy access to primary healthcare services, accessing secondary and tertiary healthcare became increasingly difficult due to rising costs. Although UNHCR covers 75% of hospital expenses for registered refugees, this support is limited to emergency and life-threatening conditions. Additionally, the economic crisis has led to rising medication costs and shortages, further restricting access to essential medicines [26].

A review evaluating studies conducted in Syria's neighboring countries, including Iraq, Lebanon, Jordan, and Türkiye, highlighted that chronic diseases and women's health were predominant concerns in Jordan; women's health, mental health, and infectious diseases were major issues in Lebanon; women's health and mental health were prioritized in Iraq; and only mental health problems were emphasized in Türkiye. Additionally, the review underscored the low childhood vaccination rates in Lebanon and Jordan [27].

Effects of Syrian Refugees on Healthcare Delivery

In a globalized world, the mobility of refugees is remarkably high. Preventive health interventions, particularly vaccination programs, are crucial in preventing outbreaks of infectious diseases not only in the host communities where migrants reside, but also in the societies they may move to in the future. Regarding chronic diseases, early diagnosis and treatment are essential to prevent disease complications, improve patient prognosis, and avoid increased healthcare costs in the refugees' future host countries. Therefore, Türkiye's healthcare policies have a significant global impact. To improve refugee health, it is beneficial to prioritize healthcare services for disadvantaged groups, including the elderly, individuals with chronic diseases, children, mothers with young children, and individuals with disabilities, while also expanding preventive healthcare efforts targeting these populations.

Current Migration Status of Syrian Refugees

Due to the lack of a safe environment in Syria, Syrian refugees have had to extend their stay in Türkiye. However, Syrian refugees have begun to return voluntarily to the regions made secure by the military operations conducted by Türkiye. According to statements

made on May 5, 2020 and May 23, 2023, 402,011 and 554,000 Syrian refugees returned to their country, respectively [28,29]. Especially after the earthquake that occurred in Kahramanmaraş on February 6, 2023, an increase was observed in the return of Syrian refugees, living in these provinces, to their country [30]. Steps were taken to resettle refugees and normalize conditions in areas made safe by operations such as Operation Euphrates Shield, Operation Olive Branch, and Operation Spring Shield conducted in regions close to the Turkish border. The last attempt made for this purpose, is the project for constructing 240 thousand dwellings, in 9 regions cleared of terrorists by these operations. It is expected that with these dwellings built within the scope of the “Voluntary, Safe, and Dignified Return Project” and the resulting normalisation of life, approximately 1 million Syrian refugees will return to their country within 2.5-3 years [29]. In addition to refugees who have returned to Syria and those who have legally immigrated from countries where they sought asylum to other countries, there are also refugees who wish to settle in other countries illegally. In addition to refugees not being accepted by countries, they are also subjected to sanctions contrary to human rights. One of these is pushbacks. Pushing refugees back to the Turkish-Greek border by European countries has become the dominant strategy [31]. In the reports published by human rights organisations and non-governmental organisations, it was stated that during pushbacks, the excessive use of force, humiliating and inhumane treatment, and arbitrary detentions have been carried out by member states of the European Union [32]. Research published by Lighthouse Reports in 2022 stated that Frontex repelled 957 asylum seekers with at least 22 confirmed incidents between March 2020 and September 2021. Furthermore, it was stated that Frontex was involved in pushbacks known as “prevention of departure” in 222 incidents involving 8,355 asylum seekers between those dates [33]. More than 18,000 refugees crossed the Mediterranean and reached Europe in the first 3 months of 2022. Between 2014 and 2021, 24,400 refugees lost their lives while trying to cross the Mediterranean [34]. In 2021, 1,400 Syrian refugees reached Italy by sea. In interventions made in Libyan territorial waters, 1,482 Syrian refugees were reached [35]. Due to the incidents occurring during pushbacks, refugees are subjected to permanent disabilities and various health problems and may also lose their lives. This situation also continues to be a problem that needs to be resolved.

Study Limitations

One limitation of our study is that it was conducted retrospectively.

Conclusion

The exodus of refugees from their own countries for various reasons causes numerous problems for both refugees and host countries. Refugees face difficulties in adaptation as well as in rebuilding their lives in the countries where they have

sought refuge. The economy, education, housing, provision of adequate food, security, and protection are affected areas. However, one of the most affected aspects is health.

When we examine the situation of Syrian refugees from 2017-2023, it can be seen that although the rate of migration from Syria to Türkiye has decreased, there has been an increase in the refugee population living in the country. At a rate greater than this growth rate, there has also been an increase in the number and quality of health services provided to refugees. Regarding this increase in quality, besides the routine health services, maternal-child health, vaccination, and pregnancy follow-up come to the fore.

Like local people, Syrian refugees have been adversely affected by natural disasters occurring in the countries where they live. Following the earthquake disaster which took place on February 6, 2023, and affected 11 provinces in and around Kahramanmaraş, Syrian refugees also lost their lives. There has also been a “return migration” to Syria due to the deteriorating living conditions in these provinces after the earthquake. The health services provided to refugees need to be re-evaluated on an international scale in terms of the new demographic picture.

One of the problems that continue to be relevant is the loss of life, disability, and health issues that occur because refugees, who wish to migrate irregularly from Türkiye’s western and southern borders to European and Mediterranean countries, are pushed back by neighboring countries of Türkiye. Evaluating this problem, which remains unresolved, on an international basis and finding a solution will be a significant advancement for humanity.

Ethics

Ethics Committee Approval: The study was conducted in accordance with the 1964 Helsinki Declaration and did not require ethical committee approval due to the reasons mentioned above.

Informed Consent: Not required.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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Footnotes

Authorship Contributions

Concept: İ.T., Design: B.B., İ.T., Data Collection or Processing: B.K.Z., S.G.Ö., B.B., İ.K., İ.T., Analysis or Interpretation: B.B., İ.T.,

Literature Search: B.K.Z., S.G.Ö., B.B., İ.K., İ.T., Writing: B.K.Z., S.G.Ö., İ.K., İ.T.

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