Original Research

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Demographic Characteristics of Syrian Patients Having Died in Hospital

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ABSTRACT

Objective: Our study aims at reviewing the demographic characteristics of Syrian patients who presented to a state hospital in Sanliurfa, where the largest immigrant camp is located, and subsequently died.

Material and Methods: Syrian patients who died after presenting to a state hospital in Sanliurfa between 2011-2015 were retrospectively analyzed. Patients' age, gender, trauma status, reasons of death, and place of death (inside or outside the hospital) were examined in detail.

Results: The study included a total of 1866 Syrian citizens who after being admitted to hospital were declared dead at the state hospital in Sanliurfa between 2011 and 2015. Of the patients, 43.7% (n=816) were female. The mean age of the patients was 61.16 ± 23.6 years (%95 CI: 60.08 - 62.23). Comparing the patients according to reasons of their death, while the groups varied depending on age, gender and traumatic injury (p<0.001, p=0.047, p<0.001, respectively), no difference was obtained between the groups according to presence of a firearm injury (p=0.290).

Conclusion: There is no significant difference between in-hospital deaths and emergency service deaths of traumatic Syrian patients.

Keywords: immigrants, immigrant camp, Syrian

ÖZET

Hastanede ölen Suriyeli hastaların demografik özellikleri

Amaç: Çalışmamızda en büyük göçmen kampının yer aldığı Şanlıurfa'da, bir devlet hastanesine başvuran ve ölen Suriyeli hastaların demografik özelliklerinin incelenmesi amaçlanmıştır.

Yöntem ve Gereçler: İki bin on bir -2015 yılları arasında Şanlıurfa'da bir devlet hastanesine başvuran ve ölüm kararı verilen Suriyeli hastalar retrospektif analizi yapıldı. Hastaların yaş, cinsiyet, travmaya maruz kalıp kalmadıkları, ölüm nedenleri ve hastane içinde ya da dışında ölüm olayının gerçekleşmesine göre ayrıntılı olarak incelendi.

Bulgular: Çalışmaya Şanlıurfa'da bir devlet hastanesine 2011 – 2015 yılları arasında başvuran ve burada ölüm kararı verilen toplam 1866 Suriyeli hasta dahil edildi. Hastaların %43,7'si (n:816) kadın idi. Çalışmaya dahil edilen hastaların ortalama yaşı 61.16 ± 23.6 (%95 CI 60.08 – 62.23) idi. Ölüm şekline göre hastalar karşılaştırıldığında yaş, cinsiyet ve travmatik yaralanma durumuna göre gruplar farklılık gösterirken (p<0.001, p:0.047, p<0.001), ateşli silah yaralanması varlığına göre gruplar arasında farklılık tespit edilmedi (p: 0.290).

Sonuç: Travmatik Suriyeli hastaların acil servis ölümleri ile hastane ölümleri arasında anlamlı fark olmadığı tespit edilmiştir.

Anahtar kelimeler: göçmen, göçmen kampı, Suriyeliler

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Introduction

In Syria, with a population of about 20 million before the civil war, about 13.5 million people need emergency humanitarian aid today. Since the beginning of the conflict, about 7.65 million Syrians have had to leave their home and about 4.8 million Syrians have sought refuge in neighboring states. Turkey hosts about 3 million Syrian asylum seekers. The Turkish government established 26 refugee centers in 10 different cities hosting about 260.000 Syrian refugees (1). Five of these camps are placed in the city of Sanliurfa, currently hosting 109.073 refugees (2).

No study examining the reasons of death of Syrians living in the Republic of Turkey has been found in the literature; thus, our study aims at reviewing the demographic characteristics of patients who died at Sanliurfa State Hospital.

Material and Methods

In our study, Syrian patients admitted to Sanliurfa state hospital who had died between 2011 and 2015 were subjected to retrospective analysis. The study protocol was approved by the local ethics committee and permission was obtained from the hospital management board. Patient data was collected from the recorded patient files using the hospital information system. All patients who had died in the emergency unit of the hospital or while being treated in the clinic or intensive care unit were screened for eligibility. Patients' age, gender, trauma status, reasons of death, and place of death (inside or outside the hospital) were examined in detail.

Statistical Analyses

Descriptive statistics were presented as frequency (percentage) for categorical variables, whereas numerical data were presented as mean ± SD and 95% confidence interval (CI) for normally distributed data. Kolmogorov-Smirnov test was used to assess the normal distribution of the data. The One-Way Anova test and Student's t-test were used for the comparison of groups. Statistical analyses were performed using SPSS 15.0 (SPSS Inc. Chicago, IL), and $p<0.05$ was considered statistically significant.

Results

The study included a total of 1866 Syrians who had presented to a state hospital in Sanliurfa between 2011-2015 and had later been declared dead in the hospital. Mean age of the patients was 61.16 ± 23.6 years (95% CI 60.08 - 62.23) and 43.7% of the patients (n=816) were female. Patients were categorized in 3 groups: those who had died outside the hospital and were admitted to hospital in ex condition, those who died in the emergency unit of the hospital and those who died while being treated in the clinic or intensive care unit. A total of 1189 (63.7%) patients died while being hospitalized, 221 (11.8%) died in the emergency unit and 456 (24.4%) died outside the hospital. Autopsies were performed on 313 patients (16.8%). Patients' demographic data and cause of death are shown in Table 1. The most frequent fatal diseases were cardiopulmonary arrest, cerebrovascular diseases, and respiratory failure. The diseases causing death are listed in Table 2.

Mean age was 66.5 ± 19.3 years (95% CI 65.6 – 67.5) in the nontraumatic group and 32.5 ± 23.1 years (95% CI 29.9 – 35.1) in the traumatic group and there was a significant difference between groups with regard to age ($p<0.001$). Comparing the patients by reasons of their death, while the groups varied depending on age, gender and trauma status ($p<0.001$, $p=0.047$, $p<0.001$), no difference was found between the groups according to presence of a firearm injury ($p=0.290$). Tukey analysis and dual comparison of the groups are provided in Tables 3 and 4.

Discussion

Since the onset of the conflict in March 2011, the Republic of Turkey, with its historical, cultural, and neighborhood ties, followed an open-door policy for Syrian refugees (3). However, lack of detailed records of diseases and mortality among Syrian immigrants leaves a gap in the literature. Mortality statistics should also be kept accurately and reliably in diagnosis and prevention of health problems (4,5).

According to the latest data, 52.3% of the Syrian immigrants living in Turkey are male and 46.8% are female (2). Tahirbegolli et al. (6) reported the male patient rate as 64.1%. Butun et al.

Table 1: Patients' demographic data

		(n)	%
Sex	**Female**	816	43.7
	Male	1050	56.3
Trauma	**Present**	307	16.45
	Absent	1526	81.78
	Not Reported	33	1.77
Clinic issuing death certificate	**Emergency Room**	677	36.3
	General Intensive Care Unit	954	51.1
	Coronary Intensive Care Unit	200	10.7
	Other clinics	35	1.9

(7) reported the male patient rate as 57.4%. Isik et al. (8) reported 309 (41.4%) females and 442 (58.9%) males. Our study is consistent with the literature with a male patient mortality rate of 56.3%.

Cardiopulmonary arrest ranked first among the reasons of death reported in our study with 456 cases (26.95%). In the study by Butun et al. (7), cardiopulmonary arrest ranked first with 52% while in a similar study (4), cardiopulmonary arrest, cardiac arrest, and respiratory arrest totaled at 52.5%. In the study by Isik et al. (8), 71% of the cases died of cardiopulmonary arrest, cardiac arrest and respiratory arrest. In the study by Meral et al. (5), cardiopulmonary arrest ranked second with 15%. Our study is consistent with the literature in terms of reasons of death.

Table 2: Disease causing death

	n	%
Cardiopulmonary arrest	456	26.9
Cerebrovascular disease (ischemia, hemorrhage)	302	17.8
Acute coronary syndrome, coronary artery disease, congestive heart failure, dysrhythmia	200	11.8
Respiratory distress	129	7.62
Injury	77	4.55
Soft tissue injury	72	4.25
Chest pain	65	3.84
Primary hypertension	51	3.01
Kidney failure	51	3.01
Pneumonia	50	2.95
Gunshot wounds	37	2.19
Traffic accidents	35	2.07
Abdominal pain, acute abdomen	34	2
Head trauma	31	1.83
Aging	22	1.3
Sepsis	22	1.3
Extremity trauma	21	1.24
Diabetes mellitus	14	0.82
Electrolyte imbalance	9	0.53
Anemia	7	0.41
Chest trauma	7	0.41
Data missing	174	9.32
Total	1866	100

Table 3: Demographic data distribution related to location of death

	Hospital	Emergency service	Out of hospital	p yok xxxxx
Age	60.02 ± 23.5	55.5 ± 24.3	65.9 ± 23.3	
Sex (M / F), n	670 / 519	139 / 82	241 / 215	
Traumatic injury, n, %	244, 13.3 %	35, 1.9 %	28, 1.5 %	

Table 4: Group comparisons of demographic characteristics according to the shape of death

	Location of death	Location of death	p	95 CI %	
Age	ES	H	.032	-8.3	-0.3
		OH	.000	-15.3	-6.3
	H	OH	.000	-9.5	-3.5
Sex	ES	H	.169	-0.02	0.15
		OH	.036	0.01	0.2
	H	OH	.406	-0.03	0.1
Traumatic injury	ES	H	.190	-0.11	0.02
		OH	.005	0.02	0.17
	H	OH	.000	0.09	0.19

ES: Emergency service, H: Hospital, OH: Out of hospital

Considering the clinics where the patients died, in our study, the adult intensive care unit ranked first with 954 (51.5%) cases and emergency unit ranked the second with 677 (36.3%) cases. In the study by Butun et al. (7), the clinic where the largest number of patients died was the central intensive care unit with 17.3% and the second was the internal medicine clinic. In a similar study (4), the intensive care unit had the most frequent death cases with 31.2%. The results of our study are consistent with the literature.

According to a study by Olsson et al. (9) with a large number of cases, the mean age of emergency service admissions was 61.9 ± 20.7 years, and in a study on trauma patients by Ahun et al. (10), the mean age was 40.35 ± 16.11 years. In our study, mean age was 66.5 ± 19.3 in the non-traumatic group and 32.5 ± 23.1 in the traumatic group, which is consistent with the literature.

Considering the cases of death in the emergency service, in-hospital and out-of-hospital among the patients included in the study, grouping the patients by age, gender and traumatic injury, a statistically significant difference was obtained between the groups. The study by Olsson et al. (9) found age associated with mortality as an independent risk factor. Various studies also determined the association between the severity of the trauma and an increased mortality rate (10,11).

Conclusion

There is no significant difference between in-hospital deaths and emergency service deaths of traumatic Syrian patients. Mortality rates can be reduced by early intervention at the scene and fast transfer to hospital. For further research, multicenter broad-participation observational studies are needed.

Contribution Categories	Name of Author
Development of study idea	F.C.
Methodological design of the study	B.K.Y.
Data acquisition and process	B.K.Y.
Data analysis and interpretation	F.C.
Literature review	B.K.Y.
Manuscript writing	F.C.
Manuscript review and revisation	B.K.Y.

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