Immigrants' use of hospital emergency services

Núria LÓPEZ RILLO[1], Francisco EPELDE[2]

[1]Hospital de la Santa Cruz y San Pablo y ABS Raval Norte. Barcelona, Spain. [2]Parc Sanitari Taulí. Sabadell. Barcelona, Spain.

Correspondence:
Núria López Rillo
C/Amargor, 4, 2º
08026 Barcelona, Spain
E-mail: adrev24@yahoo.es

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None.
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Objectives: To compare the use of hospital emergency services by immigrant and Spanish national populations, particularly with regard to severity and type of health problem for which care is sought.
Methods: Prospective, descriptive, observational study carried out on 15 consecutive days. We recorded the following data: age, sex, country of origin, severity of the emergency on the Canadian Triage and Acuity Scale, type of complaint, and time of visit.
Results: A total of 5660 patients were attended during the study period. Of that total, 792 were immigrants (14.2%). According to municipal records, this percentage was very similar to the proportion of registered foreign residents in the area served by the hospital's emergency service. The largest group of immigrants was of Latin American origin (520 [9.3%]). There were no statistically significant differences between the immigrant and Spanish national emergency service users with regard to sex (more women attended in both groups), severity of the emergency situation (simple complaints were most common in both groups), or day of the week when visits occurred (both sought emergency care mainly on week days). However, the immigrant users were significantly younger (P=.001), consulted more often with gynecological or digestive complaints (P<.001), and attended more often between 8 PM and 8 AM (P<.001).
Conclusions: Immigrants and Spanish national patients use the emergency department in the same way. The severity of complaints is similar, although the immigrant users are younger and seek emergency care more often at night and for gynecologic or digestive complaints. [Emergencias 2010;22:109-112]

Key words: Immigrants. Emergency health services. Hospital management.

Introduction

The use of hospital emergency department (ED) services has increased considerably in Spain in the last decade, while the number of immigrants has also grown. In Barcelona the number of registered immigrants increased from 91,550 in 2005 to 250,789 in 2007[1]. Among the different districts of the city, Eixample has the greatest absolute number of foreign people (nearly 42,000). Hospital de la Santa Cruz y San Pablo (HSCSP) is the referral hospital serving approximately 300,000 inhabitants and an important part of these are located in this district of Barcelona.

As reported by the Permanent Observatory of Immigration Barcelona (OPIB), the major problems faced by the immigration are those related to housing and work, while health-related problems are secondary[6]. Various studies have shown differences between the local national and immigrant population with respect to ED use. Subjectively, our impression was that immigrants used the ED more frequently than the native population. This could be due to factors not covered by our analysis in this study. On the one hand, primary care has several barriers for undocumented immigrants due to multiple administrative channels and associated language difficulties. Secondly, ED healthcare is available without an appointment, at any time, which facilitates compatibility with work schedules. In contrast there are few studies that evaluate the severity and type of pathology in the immigrant population, and it would appear that immigrants tend to use the ED at the expense of primary care[2]. Therefore, our working hypotheses were that: (i) the immigrant population uses the ED more frequently and less appropriately than the native population, and (ii) the immigrant population

consults for less severe health problems than the native population.

Method

We performed an observational, descriptive and prospective study in the ED of HSCSP, in the two-week period 1 July – 15 July 2008. The subjects of study were all patients attended in the ED, which includes general and pediatric emergencies, emergency gynecology and obstetrics, emergency trauma and surgery. We excluded patients with missing data, voluntary discharge or illegible documentation.

The dependent variable was the country of origin, recorded in our hospital admissions register, and differentiated as native or immigrant population: the latter was divided into two groups according to national economic status: high (European Union, Canada, USA, Japan, Australia, New Zealand) or low (Latin America, North Africa, Sub Saharan Africa, Eastern Europe, Asia). Independent variables recorded were age (range <20 years, 20-50 years, 51-65 years,> 65 years, although data were collected on an ongoing basis), sex, severity of health problem according to the Canadian Triage and Acuity Scale (CTAS)[10-12], which ranges from 1 to 5, with level 1 being life-threatening and level 5 being non-urgent[10-12]), type of pathology (categorised as pain, cardiac, respiratory, digestive surgery, neurology, orthopedics, psychiatry, obstetrics and gynecology, ophthalmology and ENT), day of the week (working or holiday) and time slot when the visit took place (8-12 h, 12-16 h, 16-20 h, 20-24 h and 24-08 h).

For this calculation we assumed a distribution with respect to the dependent variable (IMMIGRANT) of about 1-10, so of 2,000 cases the distribution was 200/1.800. The main variable of the study was CTAS values. Descriptive values were not found in the literature, so in the control group (non-immigrants) we estimated average values of 2 and standard deviation of 2, resulting in a high coefficient of variation (CV = 100%). The minimum difference to be detected according to the hypothesis (a higher score on the scale) was set at half a point. A type 1 error of 5% was set (alpha = 0.05), with a minimum power of 90% (Sample-Power V2.0). With these data, the study required a minimum 100 immigrants with evaluable data, including CTAS values.

For the analysis of qualitative variables we used the chi-square test; for quantitative variables Student's t test or the nonparametric Mann Whitney U test for non-normally distributed variables. Differences were considered statistically significant when the p value was less than 0.05. The whole analysis was carried out using the statistical package SPSS (V15.0).

Data collection was conducted through medical records of HSCSP ED. Health data as outlined by law (Law 15/1999, December 13 on Data Protection) were protected[6]. The study maintained all data confidential, guaranteed ethical standards for this project and was authorized by the Clinical Research Ethics Committee of HSCSP.

Results

The study included 5,660 patients: 4,868 Spanish (85.8%) and 792 immigrants (14.2%). We analyzed census data in the study period and found that 14% of the inhabitants served by our hospital were immigrants (information obtained from the website of the City Council of Barcelona)[13], reflecting no increased ED use by immigrants (p = NS). The origin of the immigrant population was mainly Latin American countries (9.3%, 520 patients), with patients from Ecuador being the most frequent ED users (87 visits). Immigrant from all the other countries accounted for less than 1% (Asia 50, Oceania 4, Eastern countries 40, African 56 and North American American 15).

In both the immigrant and native population, more women visited the ED than men, but without differences between the two populations (Table 1). In contrast, the average age of the immigrant ED patients was significantly lower; most users were between 20 and 50 years, with few users being over 65 years. We analysed 5,184 medical records (91.6%) meeting the study criteria, and the remaining 476 (8.4%) were rejected. This allowed us to extract data on the severity of the process resulting in ED visits; we found similar severity in both populations (average CTAS 4.40 for immigrants and 4.32 for native ED users; p = NS) and both groups mainly consulted for non-urgent or slight health problems. Significant differences were found in the type of pathology giving rise to ED consultation. The immigrant population consulted more often for gynecological (17.6%) and digestive tract (8.3%) reasons, while the native population consulted more often for heart disease (5.2%) or respiratory (5.4%) problems. Finally, while the day of the week for ED consultation showed no differences between the two groups, the time slot did show significant variation; the

Table 1. Comparison of data differences between immigrant and native population

	Immigrant Population	Native Population	*p*-value
Sex [n (%)]	N = 792	N = 4,868	p = NS
Male	309 (13.0%)	2,069 (87.0%)	
Female	483 (14.8%)	2,799 (85.2%)	
Age [mean (SD)]	31 (14)	46 (20)	$p < 0.001$
Age group [n (%)]			$p < 0.001$
Under 20 years	87 (11.1%)	850 (16.4%)	
From 20 to 50 years	637 (80.4%)	2,146 (41.4%)	
From 51 to 65 years	46 (5.8%)	742 (14.3%)	
Over 65 years	22 (2.7%)	1,446 (27.9%)	
Severity of health problem by CTAS scale [mean (SD)]	4.40 (0.85)	4.32 (0.88)	p = NS
CTAS Categories of severity [n (%)]			p = NS
G1	0 (0%)	0 (0%)	
G2	30 (3.8%)	210 (4.1%)	
G3	101 (12.8%)	814 (5.7%)	
G4	182 (22.9%)	1,270 (24.5%)	
G5	479 (60.6%)	2,890 (55.8%)	
Type of disease [n (%)]			$p < 0.001$
Pain	205 (25.9%)	1,349 (26.3%)	
Heart	19 (2.3%)	270 (5.2%)	
Respiratory	21 (2.7%)	280 (5.4%)	
Digestive tract	65 (8.3%)	367 (6.6%)	
Surgery	33 (4.2%)	350 (6.3%)	
Neurology	19 (2.3%)	165 (3.2%)	
Traumatology	121 (15.3%)	727 (14.5%)	
Psychiatry	25 (3.2%)	188 (3.5%)	
Obstetrics and gynecology	139 (17.6%)	518 (10.7%)	
Ophthalmology and ENT	145 (18.3%)	970 (18.2%)	
Day of week [n (%)]			p = NS
Working day	589 (74.4%)	3,940 (76.0%)	
Weekend	203 (25.6%)	1,244 (24.0%)	
Time of day [n (%)]			$p < 0.001$
0-8 h	150 (19.0%)	466 (9.0%)	
8-12 h	129 (16.3%)	1,700 (32.8%)	
12-16 h	154 (20.0%)	1,156 (22.3%)	
16-20 h	163 (20.5%)	1,116 (21.5%)	
20-24 h	191 (24.1%)	746 (14.4%)	

CTAS: Canadian Triage and Acuity Scale.

immigrant population consulted most often from 20 h to 8 h while the native population visited the ED more often from 8 h to 12 h.

Discussion

The frequency of ED use was found to be equal in the immigrant and native populations, as was the level of health problem severity which was mostly non-urgent. There is currently much debate in political and social forums concerning alleged misuse of ED services by the immigrant population. This alleged misuse has been linked with perpetual overcrowding of these services. We found that immigrant population use of these services in HSCSP was similar to that of national hospitals, as was the low severity of the health problems giving rise to consultation, but our findings may not be extrapolated to other hospitals.

This study highlighted some characteristic data; proportionally, immigrants consulted more often for gynecological problems, which can be attributed to the fact that most of the female immigrants are of reproductive age, and the difficulty of attending primary care programs of gynecological disease prevention and pregnancy monitoring, so these women resort to sporadic visits to the emergency gynecologic facility. We also found that immigrants more frequently visit the ED between 20 h and 8 h, which can be attributed to the time they are most able to consult a physician without interfering with their working hours.

On the other hand, in the age group below 50 years, the immigrant population uses ED services more frequently than the native population. This may be because of the particular difficulties faced by immigrants, including the language barrier, the ease of ED use as compared with that of primary care, work timetables, irregular legal situation, etc.

Our study has several limitations, such as the limited duration and period of the year covered. Moreover, the loss of clinical records due to administrative problems limits the possibility of generalizing the findings to other scenarios.

The information and results obtained in this study suggest that health education campaigns should be conducted in the whole population in favour of appropriate use of the ED, emphasizing the fact that most non-urgent health problems can and should be treated in ambulatory settings. However, we conclude that inappropriate use of ED services is not higher in the immigrant population.

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Valoración del uso que hace la población inmigrante de un servicio de urgencias hospitalario

López Rillo N, Epelde F

Objetivos: Determinar las características del uso que hace la población inmigrante, comparada con la autóctona, de un servicio de urgencias hospitalario (SUH), especialmente en lo que se refiere a la gravedad y el tipo de patología por los que consulta.

Metodología: Estudio observacional descriptivo y prospectivo, durante 15 días consecutivos. Se recogió: edad, sexo, país de nacimiento, gravedad de urgencia medido por la escala de *triaje* canadiense, tipo de patología y franja horaria de la visita.

Resultados: Consultaron en el SUH 5.660 pacientes, 792 de ellos extranjeros (14,2%), preferentemente latinoamericanos (520, 9,3%). Este porcentaje fue muy similar al de extranjeros empadronados en la zona de cobertura del SUH. No existen diferencias estadísticamente significativas entre la población inmigrante y la autóctona en cuanto al sexo (en ambas consultan más las mujeres), la gravedad del proceso por el que consultan (ambas consultan con mayor frecuencia por patología banal) ni el día de la semana que lo hacen (ambas consultan más los días laborables). Sin embargo, la población inmigrante que consulta al SUH es significativamente más joven ($p = 0,001$), consulta más por patología ginecológica y digestiva ($p < 0,001$) y con mayor frecuencia lo hace de 20 h a 8 h ($p < 0,001$).

Conclusiones: La frecuentación de un SUH es igual en la población autóctona y en la inmigrante, y la gravedad de los procesos por los que lo hacen es similar, aunque la población inmigrante que acude al SUH es más joven, lo hace más en horario nocturno y más por procesos ginecológicos y digestivos. [Emergencias 2010;22:109-112]

Palabras clave: Inmigración. Urgencias. Gestión. Inmigrante.