

Emergency care needs of illegal immigrants arriving to Tenerife Island in "Cayucos"

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None

Objectives: To determine the health problems of immigrants arriving on the coast of Tenerife (Canary Islands, Spain) in small boats, a new means of transport for this purpose, and to describe the type of first aid they require.

Material and methods: Cross-sectional study. The first-aid field stations were attended by staff of the Canary Islands Emergency Service and the Spanish Red Cross. Additionally, if the number of arriving immigrants exceeded the ability of the staff to cope, they were joined by a team from a primary care clinic. All immigrants who arrived on Tenerife over a period of 1 year (October 22, 2005 through October 21, 2006) were studied. Data recorded included diagnoses made upon arrival, referrals, and reasons for referral.

Results: A total of 17184 immigrants arrived. All were assessed in the initial triage and 649 (3.7%) were found to need medical care. Of those, 447 (68.9%) were treated at the point of arrival, and 202 (31.1%) had to be transferred to health-care facilities. One hundred three patients (23%) received on-site treatment for hypothermia, 79 (17.6%) for hypoglycemia, 37 for skin lesions (8.2%), 21 (4.6%) for minor injuries (4.6%), 15 (3.3%) for scabies, and 14 (3.1%) for abdominal pain. In 16 cases (3.5%) no diagnosis was recorded. The main reasons for transferring patients to health care facilities were dehydration in 28 cases (13.8%), cuts on extremities in 22 (10.8%), burns in 18 (8.9%), hypothermia in 16 (7.9%), abdominal pain in 14 (6.9%), hypoglycemia in 8 (3.9%), vomiting in 8 (3.9%), nonspecific malaise in 6 (2.9%), hypotension in 3 (1.4%), and chest trauma in 3 (1.4%).

Conclusions: The arrival of immigrants in small boats requires considerable deployment of health-care providers outside the hospital setting, even though the great majority of immigrants are in apparently good health. A third of those in need of care must be transferred to health-care facilities. [Emergencias 2008;20:405-410]

Key words: Immigration. Health status. Emergency medical Services.

Introduction

In the last 20 years the migratory process from developing countries has shown a progressive growth in Spain, whether for economic, work, political or family regrouping reasons. In some communities such as Catalonia, the Canary Islands, Andalusia and Madrid, this growth has been especially evident. However, this process achieved a particularly notable growth after the year 2000 and the immigrant population throughout Spain has risen from 2% in 1998 to more than 10% at present. In determined regions this percentage

represents 20% in specific neighbourhoods of large cities and may represent up to 40-50%. This is an undeniable reality and this abrupt growth carries a series of repercussions among which the most important are possibly healthcare and education¹. From a healthcare point of view, if this unforeseen increase in population is not accompanied by a parallel increase in resources this may contribute to overcrowding of healthcare services due to the unforeseen rise in demand. Among the care levels in the public healthcare network, the hospital emergency departments (HED) may be especially vulnerable to any increase in healthcare



Figure 1. Different types of boats used by the immigrants: dinghy (top), small boat (middle), and “cayuco” (bottom).

pressure^{2,3}. In addition, the fact that in an emergency setting any immigrant has the right to be attended regardless of his/her legal situation, makes these HED and primary care emergency services (PCES) take on a substantial care burden of this population⁴.

The Canary Islands and Andalusia were classically the receptor communities of the greatest number of illegal immigrants in small boats (Figure 1) from the African continent, mainly Morocco. This type of boat consists in a small vessel,

with a flat bottom and without a keel used to transport between approximately 10 to 20 people. The journey was of several hours (in the case of crossing the Strait of Gibraltar) or up to 1 or 2 days (from the west coast of Morocco to Fuerteventura or Lanzarote). On October 22, 2005 the first vessel of a larger size than the habitual small boats arrived to the coast of Tenerife. Thus, the birth of the “phenomenon or crisis of the “Cayucos” which converted into a novel event because of the type of vessel used (up to 30 metres length, 3.5 in width and with 2 engines capable of transporting up to 180 individuals) (Figure 1), a departure point in sub Saharan Africa (mainly Senegal, Mali and Ivory Coast), the new sea route used (departing from Noadibú, San Luis and even Dakar)⁵ and because of the state of health, due to all of the above, of the first immigrants who arrived to the Canary coasts. In this case the journey from Mauritius or Senegal to the Canary Islands lasted from 7 to 10 days representing a trip of between 450 and 650 nautical miles, respectively (between 700 and 1,000 kilometres) with the consequent physical deterioration of the passengers. All these circumstances lead the immigrants to present, more frequently than what had previously been known, healthcare needs which are characteristic of pathologies secondary to the precarious conditions of the journey (overcrowding, immobility, cold, dehydration) as well as the possibility of being carriers of endemic diseases from their own regions⁶.

Considering this new immigration phenomenon and due to the lack of knowledge as to its impact on health and the healthcare needs which these people require on arrival after the journey, the aim of the present study was to define the first emergency healthcare requisites of the immigrants who arrive to the Island of Tenerife in this type of vessel.

Methods

Healthcare services begin with the receipt of a call which reports the sighting of a “cayuco” in the operation room of the Emergency Coordination and Safety Centre (CECOES-112) from which the whole emergency operation is launched, activating the Canary Emergency Services (CES), an extrahospital medical emergency system on the Canary Islands (in charge of the tasks of coordination, healthcare transport and assistance), the Autonomous Coordination Centre of the Spanish Red Cross (SRC) (responsible for providing healthcare

and social assistance), the state police forces and the personnel of the CECOES-112 (who manage the logistics) (Figure 2). In turn, the SRC implements its ERIE service (immediate emergency response team) of humanitarian aid to the immigrants. At present, these teams are present at 11 fixed locations around Spain, with 5 in Andalusia and 6 on the Canary Islands. Each team consists of a coordinator, logistic, a physician, a nurse, a sociocultural mediator and several volunteers. The service is sent to the point at which the immigrants arrive, that is, a port, harbour or beach involving all the different connotations. The advanced medical post (AMP) is used as a tent hospital, although this may not always be possible to set up because of the work setting. Measures of self-protection for all the personnel are always taken into account for the initial reception. First, a basic triage is made which determines whether an immigrant requires healthcare in the field hospital or whether he/she should be taken to the food and clothing tent. The Spanish Triage System was the model initially used but, on determined occasions and due to the large number of immigrants arriving (up to 1,431 on one weekend), the SHORT system was decided upon since this method has shown a great sensitivity and specificity in the discrimination of severe victims versus the remaining victims in the first extrahospital triage with multiple victims⁷. At the same time this classification uses a system of coloured numbered bracelets with the aim of avoiding confusions derived from the language barrier and the poor physical state in which some of these people arrive. The subjects who are directly taken to the clothing tent receive drugs, clothing, water and food. The sociocultural mediator of the SCR carries out an investigation to detect possible minors and psychosocial support and attempts to clarify as far as possible the doubts which emerge. Moreover, affiliation work is undertaken including the name, nationality, itinerary and length of the trip. The immigrants who do not require healthcare are taken into custody by the state police forces which, after having taken down the particulars of the immigrants, transfer them to the police department or to the Immigrant Retention Centres (IRC) under the Ministry of State. If the persons who are attended in situ and discharged in the port are prescribed outpatient treatment this is provided to them together with a sheet explaining the dose and duration.

The type of care (exclusively in situ care or transfer) and the diseases attended of the illegal immigrants who arrive to Tenerife by sea in "Cayu-



Figura 2. The great frequency of the arrival of "cayucos" has led to the installation of a permanent advanced medical point in the port of Los Cristianos.

cos" over one year were determined. The study design was transversal. The tent care points consisted of personnel from the Canary Emergency Services (CES-112), the systems of extrahospital medical emergencies of the Canary Islands, the SRC and if the number of immigrants was greater than the normal response capacity, the primary care (PC) team of the area of arrival of the boat were also involved. All the illegal immigrants who arrived to the island from October 22, 2005 to October 21, 2006 were included in the study. The pathologies diagnosed on arrival to the island, the transfer carried out and their cause were analysed. The results were obtained from the CES database and the CECOES-112.

The qualitative variables are expressed as absolute values and percentages and the lineal association chi-square test was used for comparison of the latter.

Results

During the study period the arrival of 17,164 immigrants in 229 "Cayucos" was registered. After the first triage, healthcare was required in 649 (3.7%). Of these 477 (68.9%) were treated in situ and 202 (31.1%) were transferred to different healthcare centres (PC centres, county hospitals and tertiary care hospital, representing 1.07% of the total number of immigrants).

The monthly distribution of arrivals and the need for medical care are shown in Table 1 and Figure 3.

The pathologies (Table 2) most frequently leading to in situ treatment were hypothermia in 23% and hypoglycaemia in 17.6% while dehydration in 13.8% and arm or leg wounds in 10.8% and sunburns in 8.9% were the reasons for transfer to a CES. These transfers were due to the need to perform specific diagnostic tests (x-rays, analytical

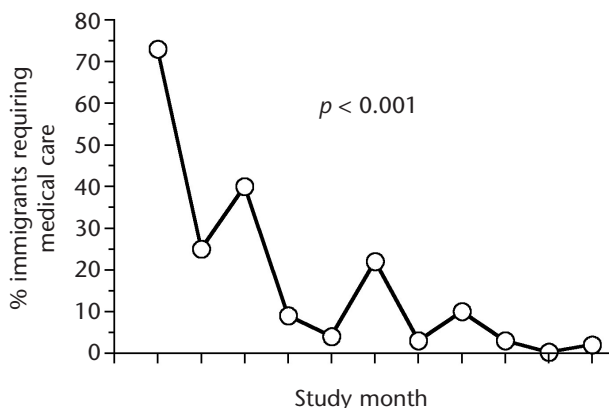
Table 1. Monthly distribution of the arrivals and the need for medical care (whether in situ or transferred to hospital for treatment)

	Total nº of boats	Total nº of immigrants N	Need for medical care N (% arrivals)
October 2005	2	59	59 (100%)
November 2005	2	56	41 (73%)
December 2005	4	155	38 (25%)
January 2006	5	172	69 (40%)
February 2006	12	450	42 (9%)
March 2006	24	1.137	41 (4%)
April 2006	7	349	76 (22%)
May 2006	45	3.345	91 (3%)
June 2006	9	564	59 (10%)
July 2006	17	1.238	37 (3%)
August 2006	40	4.503	13 (0.3%)
September 2006	54	4.616	77 (2%)
October 2006	8	540	6 (1.1%)
Total	229	17.184*	649 (3.7%)

*The average number of individuals per vessel was 75 immigrants per "cayuco".

studies, computerised tomography, etc.), hospital admission secondary to the disease diagnosed (with or without surgical treatment) and to carry out the initial treatment prescribed in the tent hospital.

The women and children deserve separate consideration. One hundred percent of the women (26 cases) were transferred to the tertiary care hospitals independently of the pathology presented for gynaecologic evaluation to rule out a possible pregnancy. These transfers were not registered. On the other hand, the exact number of minors could not be registered since in many cases a carpal x-ray was required to confirm the age since, despite its importance from a judicial point of view, the determination of the age was relevant from an emergency care to the immi-

**Figure 3.** Evolution of the percentage of illegal immigrants requiring medical care during the first aid received on their arrival from November 2005 (first point) to September 2006 (last point).

grant point of view. Indeed, this type of transfer was carried out a posteriori from the police stations or from the IRCs and was not included in the present study.

Discussion

Despite the large number of immigrants attended, most arrived in an apparently good state of health and only a small percentage required healthcare of any type or level. This may be because they were young, and theoretically healthy, individuals.

Compared to the last months of the study, during the first months the percentage of patients with medical intervention (in situ or transfer) was significantly higher. Although objective data which provide a clear explanation for this finding are not available, a certain effect of the "learning curve" may be involved which made the healthcare personnel more prudent to later only approach the relevant medical problems. Another alternative hypothesis may be that in the last months of the study, whether because of the good sailing weather or the perfecting of the handling of these clandestine voyages, the length of the journey significantly declined, from 7-10 days to 3-4 days. This led the press to consider the possible presence of "mother ships", something which has been denied by the healthcare authorities and naval professionals (Figure 4).

Of the immigrants requiring healthcare, one third were transferred to other centres. The reason for the transfer of these patients was because the pathology presented a type of medical care not available in the AMPs installed in the port for their care. The basic reasons were the undertaking of specific diagnostic tests (radiographies, analytical study, computerised tomography, etc.), hospital admission secondary to the disease diagnosed (with or without surgical treatment) and the need to complete the initial treatment administered in the tent hospital.

The language and cultural barriers were also one of the main difficulties encountered in the beginning. The handicaps which these barriers carry⁸ include difficulties in anamnesis (in communication, cultural, linguistic, religious aspects, etc.), in the diagnostic process (in reference to determined imported diseases as well as the collaboration of the immigrants in the physical or complementary examinations, etc.) and in treatment and control (whether to comprehend the directions and norms, or due to lack of trust). In most cases these

Table 2. Type and main reason for the care provided to the new arrivals

	N	%
Did not require medical care	16,535	96.2
Required treatment <i>in situ</i>	447	2.6
– Hypothermia	103	23.0*
– Hypoglycaemia	79	17.7*
– Scrapes	37	8.3*
– Mild traumatism	21	4.7*
– Scabies	15	3.6*
– Abdominal pain	14	3.1*
– Remainder or without specification	178	39.8*
Required transfer for treatment in hospital 189; In healthcare centre 19	202	1.2
– Dehydration	28	13.9*
– Arm or leg wounds	22	10.9*
– Burns	18	8.9*
– Hypothermia	16	7.9*
– Abdominal pain	14	6.9*
– Hypoglycaemia	8	4.0*
– Vomiting	8	4.0*
– Poor general status	6	3.0
– Hypotension	3	1.5*
– Chest traumatism	3	1.5*
– Remainder or without specification	76	37.6*

*These percentages were calculated based on the total of the corresponding category.

problems of communication were solved with the aid of French, Wolof, Bambara and Mandinga translators provided by the SRC.

One of the factors which has probably contributed to the spectacular rise in the arrival of vessels, and therefore, in healthcare activity, during the weeks of August and September, is the climate of the Canary Island during this time of year, with an increase in temperatures and generally calm winds which sometime blow from the East and Southeast thereby facilitating the displacement of the boat.

The mobilisation and organisation of resources to attend these people at both a port and beach level as well as that of the HED are at the same level as actions for multiple victims or human catastrophes^{9,10}. In general terms, in Spain, an incident with more than 100 or 200 victims surpasses the healthcare capacity of any region regardless of the resources available¹¹.

An important number of immigrants, which remains to be quantified, die en route, because of the lack of provisions, engine failure and for being carried by the currents and/or capsizing of the boat. A total of 921 immigrants lost their lives in 2007 attempting to arrive illegally to Spain according to the report on clandestine immigration^{11,12}. The European Union has recognised the death of 10,000 illegal immigrants attempting to arrive to the Spanish coasts in the last 5 years. In fact, the experts of the European Union have calculated that for every three "Cayucos" departing, one



Figure 4. Photography of a supposed mother ship raising several "cayucos" (arrow). Other authors have reported a reported a traditional fishing method. (Published in the newspaper "El Mundo" on November 30, 2006, 2nd Edition, on page 22 in the Section "Spain").

sinks during the journey from the sub Saharan coasts to the Canary Islands. These data were collected in the study "Sub Saharan emigration: Morocco as the passage route" and coincided with the conclusions of the "Annual Report on Racism in Spain 2007" by SOS Racismo¹³.

Although there are scarce reports or articles in the literature on emergency care to sub Saharan immigrants, there are a good number of Spanish references which globally analyse the medical and healthcare aspects of the phenomenon of immigration. Most of these aspects are related to morbidity, epidemiology, transmittable diseases, maternal-infant health, mental health, etc. in references summarised in a publication by the Official College of Physicians of Barcelona¹⁴ and in a monograph by the Navarro Department of Health¹⁵.

The extrahospital Emergency Medical Systems of Tenerife, together with those of all the Canary Islands, have passed the exam on their capacity of preparation and response to the crisis of the "Cayucos". In addition, their functioning has allowed the establishment of an integrated system of response to catastrophes, with practical coordination of the different healthcare and non healthcare actors (including the press), thereby improving the important point of healthcare to these desperate persons and, secondarily, albeit no less importantly, with a minimum impact on the HED. Since it has been estimated that this type of immigration will continue in the next years, we healthcare personnel must be prepared. The present study reports the first contrasted experience in our country with respect to what emergency healthcare represents in an extrahospital setting.

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Necesidades de asistencia urgente a los inmigrantes ilegales recién llegados en cayuco a Tenerife

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Objetivos: Determinar las características de la primera asistencia y las patologías atendidas de los inmigrantes que llegan de forma irregular por vía marítima a la Isla de Tenerife, en un nuevo tipo de embarcación, el cayuco.

Método: Estudio transversal. Los puntos de asistencia de campaña fueron atendidos por personal del Servicio de Urgencias Canario (SUC) y Cruz Roja Española (CRE), y también por el equipo de Atención Primaria (AP) si el número de inmigrantes superaba la capacidad habitual de respuesta. Se incluyó a todos los inmigrantes que llegaron a la isla de Tenerife (Canarias, España) desde el 22 de octubre de 2005 al 21 de octubre de 2006 (1 año). Se consignaron las patologías diagnosticadas al llegar a la isla, las derivaciones realizadas y su causa.

Resultados: Se registró la llegada de 17.184 inmigrantes. Todos ellos se valoraron en el primer *triaje*, y precisaron de asistencia sanitaria 649 (3,7%). De ellos, 447 (68,9%) fueron tratados *in situ* y 202 (31,1%) tuvieron que ser trasladados a diferentes centros sanitarios. *In situ* se trataron 103 pacientes por hipotermia (23%), 79 por hipoglucemia (17,6%), 37 por erosiones (8,2%), 21 por traumatismos leves (4,6%), 15 por sarna (3,3%), y 14 por dolor abdominal (3,1%); no se registró el diagnóstico en 16 casos (3,5%). Los principales diagnósticos entre los trasladados fueron: la deshidratación en 28 casos (13,8%), las heridas en extremidades en 22 (10,8%), las quemaduras en 18 (8,9%), la hipotermia en 16 (7,9%), el dolor abdominal en 14 (6,9%), la hipoglucemia en 8 (3,9%), los vómitos en 8 (3,9%), el malestar general en 6 (2,9%), la hipotensión en 3 (1,4%) y el traumatismo torácico 3 (1,4%).

Conclusiones: La llegada de inmigrantes en cayucos requiere un importante despliegue sanitario extrahospitalario, aunque la inmensa mayoría de los inmigrantes llegan en aparente buen estado de salud. De los que precisan atención sanitaria, la tercera parte han de ser trasladados a otros centros. [Emergencias 2008;20:405-410]

Palabras clave: Inmigración. Estado de Salud. Urgencias Extrahospitalarias.