BRIEF REPORT

24-hour home emergency call service organized by a hospital emergency department: a descriptive study

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None

Objective: Hospital General de Granollers attends emergencies in patients' homes on a continuous basis. We studied the types of emergencies attended and, secondarily, the response time, percentage of patients referred to the hospital emergency service, and the number of problems or conflicts that arose.
Methods: Prospective study from January through December 2008 to determine the number of calls and their characteristics.
Results: In 2008 the hospital's home emergency service attended 1131 calls (mean 3.09/d). On 121 days analyzed in detail, 359 home emergencies were attended (31.7% of the annual total; mean, 2.97/d). The patients were female in 65.7% of the cases. The mean age of the patients was 67.73 years, with ages distributed as follows: < 20 years, 1.1%; 20-39 years, 15.3%; 40-59 years, 13.6%; 60-79 years, 29%; and >80 years, 40.9%. Infections were the reason for 37,9% of the calls, followed by trauma (10.31%) and gastrointestinal complaints (9.5%). The most frequent diagnosis was upper airway infection (12%). Ambulances took the patient to the hospital emergency service in 5% of the cases. Few problems arose: 6 were related to finding the address and 1 involved verbal attacks.
Conclusions: Most of the emergency patients attended at home were women. Patients over 80 years old made up the largest age group. Infections were the most frequent reason for home emergency service attendance and the medical problems were not serious. Problems and conflicts were rare. [Emergencias 2009;21:429-432]

Key words: House calls. Emergency health services.

Introduction

Emergency home care (EHC) is a modality of medical attention for people requiring temporary or permanent care at home, due to health or social-health problems[1]. This attention is a specific task of primary care teams (PHT)[2], to provide continuous, comprehensive and integrated care[3].

In EHC, there are three types of attention: emergency visits, non-urgent visits and scheduled visits. Since the emergency often occurs in vital, high-risk situations, rapid action is needed, and this is provided primarily by standard emergency services (061/112) but sometimes by the PHT. The demand for non-urgent house calls usually reflects the need for timely resolution of minor health problems and is conditioned by circumstances that prevent the patient travelling to a primary care centre or hospital[4,5]. Finally, the scheduled home visit is considered an extension of health care provided by the PHT as a priority[2], directed at people with severe limitations such as very advanced age, physical or mental disability, terminal patients, etc. The latter form is periodic, usually without a sense of urgency, and is the responsibility of the same professional over time[6].

EHC is performed by the PHT on day shift from 8 am to 8 pm, or on-call night shift (pm to 8 am) 24 hours a day, 365 days a year. The professionals involved are faced with a number of problems: personal safety, lack of specific training to resolve common problems at home, different workplace from regular consultation, sanitary conditions, lack of access to patient history, low availability of some diagnostic and therapeutic tools, lack of coordination between the various health services, etc[2,6].

Hospital General de Granollers (HGG) is responsible for implementing the 24-hour EHC serv-

ice in Granollers and other nearby villages. We performed a study to determine the types and distribution of health conditions and diseases in patients attended by the EHC program of our hospital.

Method

The study population comprised the municipalities of Granollers (58,854 inhabitants), Les Franqueses del Vallès (16,325), Canovelles (15,704) and La Roca del Vallès (9,656), located in the region del Vallès Oriental, in the province of Barcelona. Population data used were for 2007 and taken from the official statistics of Catalonia website (www.idescat.cat/territ/BasicTerr).

In these municipalities there is no continuous PHT and therefore the HGG has a 24-hour centre called Urgències Center for this purpose.

The EHC is managed by the System d'Emergències Mèdiques (SEM) through the telephone number 061, and mobilizes an HGG professional. The EHC's service consists of 7 HGG health professionals (5 physicians and 2 graduate nurses) and an administrator to coordinate telephone calls and use of software linking the EHC service with SEM when medical staff are not in the centre. The work schedule of the EHC is from 8 pm to 8 am on weekdays, 5 pm to 9 am on Saturdays and 24 hours a day on Sundays and holidays.

The objective was to determine the number of household visits, as well as the gender distribution, age and pathology of the patients. We also assessed, as a secondary objective, EHT response time, the percentage of referrals to the emergency department by ambulance, and the existence of problems or situations of conflict. The latter were collected from the complaints recorded on an internal register.

To make an assessment of the EHC service provided by the HGG, we performed a prospective 12-month study, between the months of January to December 2008. The data were obtained from EHC reports, a copy of which is held by the hospital. This report reflects patient data (name, age, address, population, telephone number), date, time of activation and completion of service, and clinical data (complaint, physical examination, diagnostic approach, treatment administered and/or prescribed, ambulance transfer to hospital or not). We randomly selected a third of the weeks and reviewed the EHT reports pertaining to the 7 days of duty of each week.

For recording the results we elaborated a database using SPSS 16.0. We then analyzed the frequency of categorical variables and the distribution of central tendency measures for the quantitative variables.

Results

In 2008 the EHC service of the HGG made 1131 visits. We analyzed 359 visits, (31.7% of the total). The average number of home visits per day was 2.97.

Regarding populations, patients were distributed as follows: 67.1% Granollers (n = 241), Canovelles 15.6% (n = 56), Les Franqueses 9.7% (n = 35) and La Roca 7.5% (n = 27).

Regarding days of the week, most visits were made on a Sunday, with 6.08 visits/day, and of working days, on a Friday with 2.8 visits/day. Visiting times differed depending on the day of the week; on weekdays mainly from 8-11 pm, on Sundays and holidays between 10 am-2 pm and 5-10 pm.

Of the patients seen, 65.7% were women (236 visits). Mean age was 66.7 years ± 22.1 (men 64.2 ± 21.8 and women 68 ± 22.3 years).

Demographic distribution of diseases and health problems are detailed in Table 1. They were as follows: infections 37.9% (n = 136), trauma 10.3% (n = 37), gastroenterology 9.5% (n = 34), neurology 8.36% (n = 30), palliative care 5.8% (n = 21), psychiatry 5.57% (n = 20), urology 3.6 (n = 13), cardiology 2.8% (n = 11) and others (otolaryngology, dermatology, death certificates, etc.) 15.9% (n = 57).

The most common diagnoses were: upper tract catarrh (12%, n = 43), acute gastroenteritis (10.3%, n = 37), vomiting (7.2%, n = 26), sciatica (6.4%, n = 23), acute tracheobronchitis (5.8%, n = 21) and dizziness (5.3%, n = 19).

A very special case was death certification accounting for 10.6% of all visits (n = 38), which in fact was the most frequent cause of call for patients aged over 80 years (n = 26).

Anxiety was the most frequent reason for consultation in psychiatric pathology, 3.3% of the total (n = 12), all women. Voluntary poisoning accounted for 1.7% (n = 6): 3 by anxiolytics, 2 by alcohol and cocaine, and 1 by alcohol.

Patients with chronic terminal phase disease, mostly cancer, accounted for 5.3% of the visits. The most common reason was pain, as reflected in Table 2.

During the study period were 18 referrals to

Table 1. Demographic distribution of patients visited at home

	Total			
Age in years	(%)	(n)	Men	Women
< 20	1.11%	4	2	2
20-39	15.32%	55	23	32
40-59	13.65%	49	18	31
60-79	28.97%	104	35	69
> 80	40.95%	147	45	102

the emergency department, all by ambulance (5% of visits). The causes are presented in Table 3.

The average delay in home care attention was 47 minutes, with a range from 10 minutes to 1 hour and 40 minutes. One of the particularly complex situations was visiting patients with psychiatric disorders requiring the simultaneous presence of a physician, police and ambulance for subsequent transfer to the emergency department for psychiatric evaluation.

Few incidents were recorded: six cases involving difficulty in locating the home of the patient, one verbal aggression by a patient and family members, and two situations of conflict in relation to the attention received (medical home visit) and the demand made (ambulance transfer).

Discussion

The emergency service SEM-061, according to data extracted from the web page (www.sem.es/portal/web/activitat 061), received 1.579.662 calls via their telephone number 061 in the year 2008; 1,013,437 incidents and 84,837 (8.37%) were for home care, which gives an overview of the importance of such attention in emergencies in general. As reported in the observational study of the 061 Aragon Emergency Service performed in the year 2003[7], the most frequent call was for physician attention at home.

Although the importance of the EHC, at least quantitatively, of the EHC is clear from the data, no previous studies have evaluated the pathology attended by physicians of the EHC service.

Table 2. Reasons for home visits in terminally ill patients

Reason for consultation	N (% of total visits)
Pain	9 (2.5%)
Dyspnea	4 (1.1%)
Dysphagia	3 (0.8%)
Agitation	3 (0.8%)
Acute urinary retention	2 (0.5%)
Hepatic encephalopathy	1 (0.2%)
Total	**21 (5.3%)**

Table 3. Ambulance transfers to Emergency Department

Description of the disease	Number of cases
Dyspnea associated with heart failure	2
Dyspnea due to excacerbation of COPD	2
Suspected CVA	2
Renal colic	2
Fainting	2
Acute pyelonephritis	1
Deterioration of general state	1
Disorientation	1
Hepatic encephalopathy	1
Hypertensive Emergency	1
Pneumonia	1
Abdominal pain	1
Alcohol-cocaine poisoning	1

COPD: chronic obstructive pulmonary disease; CVA: cardiovascular accident.

On workdays, hours of EHC service use was predominantly in the evening as the service begins from 8 pm. For Sundays and public holidays, the highest percentage of calls occurred between 10 am and 2 pm and between 5 pm and 10 pm.

Most visits were made on a Sunday, since the EHC service operates 24 hours on that day and the only alternative resource is a visit to the hospital emergency department. These data are consistent with those obtained in other studies[7,8].

The majority (69.92%) of the patients using the EHC service were over 60 years, which agrees with the result obtained in an observational study on the use of extra-hospital emergencies in Barcelona[8]. Patients aged over 80 years accounted for 40.9% of all visits. These patients present the greatest probability of chronic disease and a greater degree of frailty and dependence. Diverse studies[9,10] have shown that 8% of the elderly living alone have some type of cognitive impairment and 13% have some degree of dependency, which may be a cause of increased use of health services and, in particular, the EHC.

Women were the main beneficiaries of this service, as noted in another study where 56.2% of patients attended at home were women[8], and this was the case in all age groups; and, the greater the age, the greater the proportion of women attended, probably because of their longer life expectancy.

The philosophy underlying the EHC, which is to address minor health problems in patients who can not visit their health centre or hospital, is reflected in the results of the study, since 47.1% of visits were for upper tract catarrh, gastroenteritis, vomiting, backache, and dizziness; and 5% were transferred to the emergency department.

However, the EHC also faces complicated situations, such as the care of terminal phase patients.

The most common reason for the call from these patients was pain in 42.9% of cases (n = 9), which coincides with other studies indicating that this symptom is one of the most common causes of seeking urgent care at home[11-13].

The average delay in response to the call for a home visit was short, 47 minutes. The range from 10 minutes to 1 hour 40 minutes is attributable to factors such as proximity/distance, two or more simultaneous calls and prioritization of certain more complex or more severe pathologies (prioritization performed by SEM following their protocols). Finally, the study showed that the existence of conflict situations is exceptional.

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Estudio descriptivo de un servicio de atención domiciliaria continuada realizada desde urgencias

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Objetivo: El Hospital General de Granollers (HGG) realiza la atención domiciliaria urgente (ADU) en horario de atención continuada. Se ideó un estudio para conocer la patología atendida. Se valoró como objetivo secundario el tiempo de respuesta de la asistencia, el porcentaje de derivaciones a urgencias y la existencia de situaciones conflictivas.
Método: Estudio prospectivo de enero a diciembre de 2008 para determinar el número de visitas y sus características.
Resultados: En 2008 el servicio de ADU del HGG realizó 1.131 visitas (media 3,09 visitas/día). Se analizaron 121 días de guardia durante los cuales se realizaron 359 visitas (31,7% del total), media 2,97 visitas/día. El 65,7% fueron mujeres. La edad media fue 67,7 años. La distribución por edades: < 20 años 1,1%, 20-39 años 15,3%, 40-59 años 13,6%, 60-79 años 29%, > 80 años 40,95%. El 37,9% de la patología fue de causa infecciosa, seguida de traumatología 10,31% y gastroenterología 9,5%. El diagnóstico más frecuente fue el catarro de vías altas (12%). Se derivaron a urgencias en ambulancia el 5% de las visitas. Se recogieron pocas incidencias, 6 casos relacionados con la localización del domicilio y 1 agresión verbal.
Conclusiones: La mayoría de los pacientes atendidos fueron mujeres y por edad el grupo más frecuente lo representaron los mayores de 80 años. La patología más atendida fue la de causa infecciosa y por problemas de escasa gravedad. La existencia de situaciones conflictivas fue excepcional. [Emergencias 2009;21:429-432]

Palabras clave: Atención domiciliaria. Urgencias.