

RESEARCH PAPER (ORIGINAL)
ARTIGO DE INVESTIGAÇÃO (ORIGINAL)**Determinants of non-urgent emergency department use**

Determinantes do acesso ao serviço de urgência por utentes não urgentes

Determinantes del acceso al servicio de urgencias por usuarios no urgentes

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Abstract**Background:** The use of the emergency department (ED) for non-urgent situations is a source of concern, both at the national and international levels.**Objectives:** To assess the sociodemographic characteristics and ED use of non-urgent patients and to identify the reasons for non-urgent ED use.**Methodology:** This cross-sectional study used patient interviews and the electronic medical records of 357 patients triaged as non-urgent at a Portuguese hospital ED, using an accidental sampling technique.**Results:** The majority of patients were women, middle-aged, and had a low education level; most of them used the ED during the day and on their own initiative. The most common reasons were: *My disease justifies ED use* (91.7%) and *I can undergo all medical examinations on the same day* (65.6%). The majority of patients (87.9%) were discharged, and 84.9% had access to a family doctor.**Conclusion:** Multiple determinants of non-urgent ED use were identified. Some recommendations were put forward to improve the rational use of healthcare services.**Keywords:** emergency medical services; health services; patient care; adult**Resumo****Enquadramento:** A utilização dos serviços de urgência (SU) por situações não urgentes constitui uma preocupação a nível nacional e mundial.**Objetivos:** Avaliar as características sociodemográficas e o acesso ao SU por utentes não urgentes e identificar os fatores que motivam a sua procura.**Metodologia:** Neste estudo transversal recorreu-se a uma entrevista e à consulta dos processos clínicos eletrónicos de 357 doentes triados como não urgentes num SU de um hospital português seguindo-se uma amostragem accidental.**Resultados:** Os utentes da amostra são maioritariamente do sexo feminino, de meia-idade, com reduzidas habilitações literárias, que recorrem ao SU, sobretudo no período diurno e por iniciativa própria. Os motivos mais referenciados foram: *A minha doença justifica a ida à urgência* (91,7%) e *Posso realizar os exames todos no mesmo dia* (65,6%). A maioria dos utentes (87,9%) teve alta clínica, sendo que 84,9% dos utentes têm acesso ao médico de família.**Conclusão:** Foram identificados múltiplos determinantes do acesso ao SU, permitindo apontar sugestões que visam uma utilização racional dos cuidados de saúde.**Palavras-chave:** serviços médicos de emergência; serviços de saúde; assistência ao paciente; adulto

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Resumen**Marco contextual:** La utilización de los servicios de urgencias (SU) en situaciones no urgentes constituye una preocupación a nivel nacional y mundial.**Objetivos:** Evaluar las características sociodemográficas y el acceso al SU de usuarios no urgentes e identificar los factores que motivan su demanda.**Metodología:** En este estudio transversal se utilizó una entrevista y se consultaron los registros médicos electrónicos de 357 pacientes seleccionados como no urgentes en un SU en un hospital portugués, para lo cual se siguió un muestreo accidental.**Resultados:** Los usuarios de la muestra son mayoritariamente del sexo femenino, de mediana edad, con reducidas cualificaciones literarias, que recurren al SU sobre todo en el período diurno y por iniciativa propia. Los motivos que más se indicaron fueron: *Mi enfermedad justifica ir a urgencias* (91,7%) y *Puedo realizar todos los exámenes el mismo día* (65,6%). La mayoría de los usuarios (87,9%) tuvo alta clínica, y el 84,9% de los usuarios tiene acceso al médico de familia.**Conclusión:** Se identificaron varios determinantes del acceso al servicio de urgencias que apuntan a una utilización racional de la atención de la salud.**Palabras clave:** servicios médicos de urgencia; servicios de salud; atención al paciente; adulto

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Introduction

Emergency departments (ED) have been re-structured, not only because of the economic burden to the National Health Service (*Serviço Nacional de Saúde* - SNS), but also because it is increasingly important to ensure access to urgent care (Carret, Fassa, & Kawachi, 2007), given that the demand for ED exceeds the resource availability worldwide (Unwin, Kinsman, & Rigby, 2016). Overcrowding is considered to be a public health problem because of its impact on the degradation of the quality of care (prolonged waiting times, delays in diagnosis and treatment, delays in the treatment of critically ill patients), increased costs (unnecessary examinations and treatments), and patient dissatisfaction (Gentile et al., 2010; Uscher-Pines, Pines, Kellermann, Gillen, & Mehrotra, 2013).

In Portugal, it is estimated that around 35% of emergency episodes are semi-urgent or non-urgent cases (Gomes, 2014). In 2012, there were around 6 million cases of inappropriate ED use in Portugal (Paiva et al., 2012).

The situation is similar worldwide, with estimates of 20% to 40% of inappropriate ED use (Carret, Fassa, & Domingues, 2009). It should be noted that there is a high variability in the rate of inappropriate ED use due to the lack of consensus on the criteria to be considered (Santos, Freitas, & Martins, 2014).

In view of the above, this study aimed to assess the determinants of non-urgent emergency department use.

Background

Several authors have addressed the concept of inappropriate ED use. Pereira et al. (2001) define inappropriate ED use as episodes that do not result in the patient's transfer, hospitalization, death at the ED, or need for diagnostic tests or invasive procedures. More recently, other concepts have been used following the priority assigned through the Manchester triage system. After the identification of the relevant discriminator, patients are assigned a clinical priority (Immediate = Red; Very urgent = Orange; Urgent = Yellow; Standard = Green; Non-urgent = Blue; Santos et al., 2014).

In a systematic literature review, Uscher-Pines et al. (2013) found a large diversity of criteria for non-urgent ED uses. Studies point to an inappropriate ED use of approximately 37%. The main determinants include younger age, the convenience of the ED compared to alternatives, referral to the ED by a physician, and negative perceptions about alternatives such as primary health care (PHC). Other studies indicate that the non-urgent use of ED is associated with the opportunity to receive care without an appointment, in a place that has modern and high-quality technologies and extended opening hours (Gentile et al., 2010). Franchi et al. (2017) found that men aged over 85 years, who were polymedicated, had used the ED and been admitted to the hospital in the previous year, and lived within 10Km from an ED were more likely to use the ED. Overall, 83% of the ED users with a low emergency triage code were discharged home.

McGuigan and Watson (2010) analyzed the factors influencing patients' decisions to use the ED for non-urgent treatment. The results showed that the majority of ED users felt that their condition required urgent attention and that their use of the ED was appropriate. The majority of patients had soft tissue injuries or hematomas. Women tended to use more the ED following the suggestion of other people, such as family and friends, than men. Based on these results, the authors suggest a social marketing campaign to promote appropriate ED use, as well as nurses' presence to assess and refer patients to appropriate health services.

In addition, Unwin et al. (2016) observed that non-urgent ED users' decision-making was influenced by convenience, perceived need, and referral by a health care professional. Cost was not a relevant factor. In this study, there was a high incidence of patients under the age of 25 years, as well as musculoskeletal complaints.

Most patients went to the ED autonomously (76%) and only one third (31.8%) had consulted a physician. The main reasons for using the ED were the difficulty to get an appointment with a general practitioner (22.3%), pain (68.5%), and the availability of medical services, such as laboratory tests and medication (37.6%). Traumatic injuries and wounds were the main medical reasons for using the ED (43.5%) and most subjects (68%) were willing

to be referred to PHC (Gentile et al., 2010). The disproportionate flow to the ED is both a political and a financial concern. It should be noted that there is a significant difference between the much higher operational costs of an emergency episode at an ED and a scheduled medical visit (Novo, 2010). Therefore, it is necessary to obtain the profile of the inappropriate ED user (Gomes, 2014). However, while the consequences of the inappropriate use of ED are universal, its causes and solutions are specific to each country and region. Unique social and economic circumstances create specific gender-specific capable of influencing the appropriate access to ED (Read, Varughese, & Cameron, 2014). A Brazilian study (Dias et al., 2016) evaluated the long-term outcomes and satisfaction of non-urgent users referred by the ED to PHC based on the Manchester triage system. The authors found that 56.4% of non-urgent patients were triaged as green, 34.3% as blue, and 9.3% as white. Only 62.7% of the patients referred to PHC used the healthcare center (HC), 14.4% sought other ED, and 22.9% did not seek any other health service.

Research questions

What are the sociodemographic characteristics and ED use of non-urgent patients?

What are the factors influencing them to use the ED?

Methodology

Population and sample

The target population of this descriptive-correlational study was composed of individuals who used the ED of a Portuguese hospital center and who met the following inclusion criteria: patients aged 18 years or over and triaged as standard or non-urgent using the Manchester triage system. The following users were excluded from this study: individuals who had communication difficulties, were unconscious or disoriented (based on the patient's medical records), and who were unable to give their informed consent.

According to the administrative data of the institution, the eligible population included 3,002

non-urgent users. Sampled individuals were selected at different periods of the day and on all days of the week. After applying the inclusion and exclusion criteria, the accidental sample was composed of 357 users (11.9% of the eligible population).

Data collection tools

Data were collected from three sources of information: a) Patient interviews after the ED triage, performed by nurses and nursing students who did not work at the unit to prevent influencing patients' answers, following a standardized protocol. The interviews were performed at different periods of the day (from 8 a.m. to 7:59 p.m. and from 8 p.m. to 10 p.m.) on all days of the week. These two periods of the day were selected because the first period corresponded to the moment when the emergency outpatient visits started at the PHC services. The following variables were analyzed: gender, education level, means of access to the ED, referral to the ED, access to a family doctor, information on the possibility of using the emergency outpatient visits at the PHC services, reasons/justification for using the ED (closed-ended question with 16 response options), time of evolution of complaints (in days), perceived emergency based on health condition; concern for their health condition; and perceived adequacy of the ED to the treatment of their health condition. These three variables were rated on a Likert-type from 0 to 10; b) Consultation of the electronic medical records of the hospital to collect information on the following variables: age, marital status, professional situation, time of admission to ED, date of admission to ED, clinical discriminator of admission to ED based on the Manchester triage system, patient destination, payment of user fees, and number of previous ED admissions in 2014; c) Consultation of the medical records at the PHC services to collect information on the following variables: having a family doctor, number of visits in 2014 (the same period as the one covered in the patient interviews) having or not having a family doctor.

Ethical procedures

Participants were asked to give their informed consent. An appropriate location for data collection was always ensured and the norms in

the Declaration of Helsinki (2014) were met. The study received the favorable opinion of the Ethics Committee (No. 31/14).

Data processing

Descriptive and inferential statistics were used. Taking into account the size of the sample and subsamples, and in accordance with the central limit theorem, parametric statistical techniques were used, namely the Student's t-test, ANOVA, Pearson's correlation according to the type of variables under study, and the nonparametric chi-square test in case of discrete variables.

Results

Sociodemographic characteristics and ED use of non-urgent patients

The sample was composed of 357 non-urgent ED users: 59.7% were women; 58.5% were married, 25.2% were single, 9% were widowed, 6.2% were separated/divorced, and 1.1% un-

known. In this sample, 36.2% of users only had completed basic education; 6.8% were illiterate; 18% had completed the 6th grade; 10.8% had completed the 9th grade; 18.8% had completed the 12th grade; and 9.4% had completed higher education. With regard to the professional situation, 45.7% of users were retired, 33.8% were employed, 8.4% were unemployed, 6.2% were students, 4.8% were homemakers, and 1.1% were on sick leave. Participants were aged between 18 and 92 years, with a mean age of 54.51 years, a standard deviation of 20.9 years, and a median of 56 years.

Most non-urgent users (84.6%) were admitted between 8 a.m. and 7:59 p.m., and 15.4% between 8 p.m. and 7:59 a.m., mostly on Tuesdays (28.0%) and Thursdays (26.6%). The majority of participants used the ED on their own initiative (61.8%) and only 18.3% of them used PHC services before using the ED. It should be noted that only 36.4% of those who had previously used PHC services ($n = 66$) had brought their clinical information (Table 1).

Table 1
Descriptive statistics of the variables related to ED use

Variables		No.	%
Week day of admission to the emergency department ($n = 357$)	Monday	54	15.1
	Tuesday	100	28.0
	Wednesday	48	13.5
	Thursday	95	26.6
	Friday	5	1.4
	Saturday	21	5.9
	Sunday	34	9.5
Referral to the emergency department ($n = 361$)*	No referral, own initiative	223	61.8
	Referred by PHC services	66	18.3
	Another type of referral	20	5.5
	Recommendation of other people	15	4.2
	Referred by a physician or health professional (private)	11	3.0
	Referred by the healthcare center via phone	10	2.8
	Referred by the <i>Saúde 24</i> service, via phone	8	2.2
	Went previously to a pharmacy	5	1.4
Access to a family doctor ($n = 357$)	Called previously to the ED	3	0.8
Access to a family doctor ($n = 357$)	Yes	303	84.9
	No	54	15.1

Information about access to emergency outpatient visits at PHC services (<i>n</i> = 356)	Yes	265	74.4
	No	91	25.6
Destination after ED (<i>n</i> = 357)	Abandonment	5	1.4
	Discharge against medical opinion	2	0.6
	Back-up clinic	1	0.3
	Unknown	1	0.3
	Hospitalization	26	7.3
	Transfer	8	2.2
	Discharged home/family doctor	314	87.9

Note. *4 patients mentioned two options.

Patients who had used PHC services before using the ED reported doing so because *it was the correct thing to do* (45.9%) and because *their situation was not urgent* (44.3%). The most common reasons re-

ported by the patients to use the ED (Table 2) rather than PHC services were: *My disease justifies ED use* (91.7%) and *I can undergo all medical examinations on the same day* (65.6%).

Table 2

Reasons/justification for using the ED

	No.	%
My disease justifies ED use	264	91.7
I can undergo all medical examinations on the same day	185	65.6
I wanted to be examined by a specialist	152	53.9
It is difficult to schedule an appointment at the healthcare center	124	44.3
It is quicker to be examined at the hospital	107	38.1
A matter of habit	75	26.7
I wasn't satisfied with the healthcare center in similar situations	75	26.6
Worsening of chronic disease during follow-up in outpatient visit	59	21.0
The healthcare center was closed and I didn't know where to go	58	20.7
The doctor was not at the healthcare center and I had no alternative	46	16.4
No vacancy at the healthcare center and I had no alternative	44	15.7
The visit hours at the healthcare center are not compatible with work/school	43	15.4
I was closer to the hospital	43	15.4
I don't have a family doctor	42	14.7
I was hoping to be hospitalized	15	5.4
I have a private doctor and I don't usually use the healthcare center	27	9.6

In this sample, 84.9% of respondents reported having a family doctor and 74.2% reported having knowledge about the emergency outpatient visit in their healthcare center. The consultation to Medical Support System (*Sistema*

de Apoio ao Médico - SAM) and National Primary Healthcare Information System (*Sistema de Informação Nacional dos Cuidados de Saúde Primários* - SINUS) showed that, on average, users who did not have a family doctor (41)

used PHC services 4 ± 4.3 times since January 2014, while users who had a family doctor used them 5.75 ± 4.0 times ($t = 1.937$; $p = 0.054$).

In relation to the discriminators assigned by professionals to patients triaged as standard and non-urgent, the most common ones were: *unwell adult* (23.7%), *pain (abdominal, thoracic, throat, lumbar, and testicular)* (20.7%), *limb problems* (10.2%), *dyspnea* (8.3%), *vomiting* (5.5%); and *urinary problems* (5.2%). The remaining 26.4% of users had several discriminators with a percentage of less than 2% each. On average, participants reported having the complaint that led them to ED for 18.8 ± 70.8 days. Only 43 (12.4%) of the 350 users who answered this question reported using the ED on the same day of symptom onset, and 11 users reported having been sick for more than 150 days before coming to the ED. The majority of users (87.9%) were discharged (home, family doctor, or outpatient visit). The destination of the remaining users (12.1%) was as follows: hospitalization (7.3%); transfer (2.2%), and discharge against medical advice, and abandonment (2.6%).

The number of previous admissions in 2014 ranged from zero to 75 admissions, with a mean of 1.71 ± 4.8 . This was the first admission to the ED in 2014 for 49.6% of users, the second one for 21.3% of users, and 29.1% of non-urgent users had two or more previous ED admissions.

On average, users classified the level of emergency of their health condition as 6.9 ± 2.1 , their level of concern with their health condition as 8.1 ± 2.1 , and their level of agreement about the ED being the most appropriate place to treat their condition as 8.6 ± 2.0 .

Factors leading to non-urgent ED use

This study analyzed if the time of admission to ED was influenced by users' age, professional situation, or gender. No significant correlation was found with age ($t = 0.758$; $p = 0.576$)

or with the professional situation (active *vs* non-active; $\chi^2 = 0.111$; $p = 0.739$); however, a significant correlation was found with gender ($\chi^2 = 4.919$; $p = 0.027$). Men used the ED more often at night (53.6%), while women used it more often during the day (62.3%).

Based on the electronic medical records, it was possible to analyze if the lack of access to a family doctor could limit the use of PHC services. On average, users who did not have a family doctor (15.1%) had used PHC services 4 ± 4.3 times in 2014, whereas users who had a family doctor (84.9%) had used them 5.75 ± 4.0 times ($t = 1.937$; $p = 0.054$).

This study aimed to determine if the number of previous ED admissions was associated with the exemption from user fees. The results showed that 41.2% of users were exempt from user fees, and that these patients reported a higher number of previous admissions ($t = 3.306$; $p = 0.01$).

Table 3 shows that it was not possible to confirm the existence of a significant association between the number of previous ED admissions and gender ($t = 1.027$; $p = 0.305$), nor with the access to the family doctor ($p = 0.581$). No association was found between the number of previous admissions and users' professional situation ($F_6 = 1.825$; $p = 0.107$), marital status ($F_5 = 1.487$; $p = 0.205$), origin (own initiative *vs* referred by health service; $t = 0.078$; $p = 0.938$). The analysis of users' professional situation according to two groups (active *vs* non-active) showed a lower mean number of ED admissions among professionally active users ($t = -2.576$; $p = 0.010$). In addition, the analysis showed that the number of previous ED admissions increased with age ($r = 0.123$; $p = 0.021$).

In addition, it should be noted that non-urgent users with more previous ED admissions had a higher number of admissions to PHC services ($r = 0.255$; $p < 0.001$), that is, users who used PHC services more often also used the ED more often.

Table 3
Determining factors of the number of previous ED admissions

		<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i> *	<i>p</i>
Exemption from user fees	Exempt	147	2.10	2.759	3.306	0.010
	Non-exempt	210	1.08	2.949		
Gender	Female	213	2.03	6.965	1.027	0.305
	Male	144	1.49	2.603		
Professional situation	Active	122	0.80	1.676	-2.576	0.010
	Non-active	236	2.18	5.803		
Access to a family doctor	Yes	303	1.77	5.167	0.552	0.581
	No	54	1.37	2.413		

Note. *M* = Mean; *SD* = Standard deviation. *Student's t-test for independent samples.

It was not possible to confirm the existence of a significant association between the number of previous ED admissions and users' perceived severity of their situation ($r = 0.074$; $p = 0.162$) or concern with their health condition ($r = 0.051$; $p = 0.337$). However, users who considered the ED as the most appropriate place to treat their condition were those who had a higher number of previous ED admissions ($r = 0.112$; $p = 0.036$).

Discussion

This study aimed to assess the determining factors of non-urgent ED use. Data analysis showed that the majority of non-urgent users are women, retired, have a low education level, and a mean age of 54.51 ± 20.9 years. Franchi et al. (2017) concluded that men, aged over 85 years, polymedicated, with a history of previous ED visits and hospital admissions used the ED more often. Previous studies associated the inappropriate ED use with younger ages (Unwin et al., 2016; Uscher-Pines et al., 2013), which this study could not confirm.

Therefore, it is important to compare the period of ED admission of non-urgent users with the opening hours of PHC services. The majority of non-urgent users sought the ED during the day, particularly women. These results are in line with the findings from another study (Carret et al., 2007), in which the most inappropriate emergency episodes had occurred in

the morning and afternoon periods. On the other hand, Gomes (2014) found that users who perceived their situation as non-urgent and knew that they would have to wait would rather go at night when there is a lower inflow. The majority of users sought the ED on their own initiative, and only 18.3% had previously used PHC services. Novo (2010) noted that, despite the increase in the number of physicians, users continued to use ED as a source of primary care, especially those users who had not been referred by the family doctor. In addition, Uscher-Pines et al. (2013) pointed to an inappropriate ED use because of the convenience of the ED compared to alternatives, referral to the ED by a physician, and negative perceptions about alternatives such as PHC services. Other studies also add the opportunity to be examined without having to make an appointment, in a place that has modern and high-quality technologies and extended opening hours (Gentile et al., 2010). The majority of ED users had no emergency situations (Pereira et al., 2001) and, therefore, they could have used other SNS services (Carret et al., 2009; Oliveira, 2006; Santos et al., 2014).

This situation can be explained by either the users' lack of information about the level of differentiation and access to health care or a wrong perception of their health condition that leads them to decide using the ED. These results are consistent with those found by Gentile et al. (2010) who reported that most non-urgent users went to the ED autonomous-

ly (76%) and that only one third (31.8%) had previously consulted a physician.

It should be noted that 7.3% of patients triaged as standard or non-urgent were admitted and 2.2% were transferred. These figures can be explained by errors in triage due to the system or the lack of training of triage nurses, insufficient information transmitted in a first contact by the users or accompanying persons, or worsening of the clinical situation after triage (Rebimbas, 2013). For these reasons, it would be important to conduct a study on these users' medical history and follow-up.

Ng et al. (2016) had already emphasized this apparent paradox associated with a large number of hospitalizations of patients triaged as non-urgent at the ED. In this study, the overall hospitalization rate was 12.47%. The predictors for hospitalization following non-urgent access included being male, being over 65 years of age, arriving by ambulance, heart rate above 100/min, fever, and skin edema/erythema. The authors emphasize the importance of critically analyzing the level of accuracy of ED triage because it could lead the clinical team to make inappropriate decisions.

Taking into account that most subjects had access to a family doctor and symptoms with prolonged evolution (18.8 ± 70.8 days), non-urgent users' motivations related to their socio-economic context may influence the proper ED use (Read et al., 2014). These data do not corroborate the hypotheses that indicated that many users did not have a family doctor and that it would be difficult to schedule a visit in PHC services in due time (Novo, 2010). In the study of Gentile et al. (2010), only 68% of non-urgent users were willing to be referred to PHC services, while, in another study (Dias et al., 2016), 62.7% of individuals actually used PHC services after being referred by the ED.

The high number of users with user fee exemptions (41.2%) may be contributing to an inappropriate ED use (Paiva et al., 2012).

On average, non-urgent users considered that their health condition was moderately urgent (6.9 ± 2.1), but very worrying (8.1 ± 2.1), for which reason they thought that the ED would be the most suitable service for treatment (8.6 ± 2.0). Users who considered the ED as the most suitable service for treatment had a higher number of previous admissions. Further-

more, users who used the ED more often also used the PHC services more often. In other words, besides the inappropriate ED use, there seems to be a pattern of intensive use of health care services in general, which is corroborated by Franchi et al. (2017).

It should be noted that less than half (36.4%) of the users who had used PHC services before going to the ED brought information.

The three most common reasons for using the ED rather than the PHC services are associated with users' perceived emergency of their clinical situation, the need to undergo all medical examinations on the same day, and the fact of being examined by a specialist. Previous studies add that ED are exposed to an inappropriate use because they operate 24/7, are located close to major residential areas, and provide care to patients without access to other health care networks (Novo, 2010; Oliveira, 2006; Silva, 2009). Other reasons include the ease of access to health care and diagnostic tests, as well as the existence of social cases such as abandoned older people or homeless people and users with chronic and/or terminal illness (Silva, 2009). Inappropriate ED use seems to result not only from easier access but also from the belief that the treatment received will be of better quality (McGuigan & Watson, 2010; Unwin et al., 2016).

Most non-urgent users (74.6%) reported being aware of the existence of the emergency outpatient visit at their HC, with many of them having already used it. Mendes, Mantovani, Gemito, and Lopes (2013) emphasize the high importance assigned by users to the emergency outpatient visit at their HC; however, it seems there is still some lack of information about it since users continue to use the ED for non-urgent reasons.

The provision of healthcare information by phone or via the Internet is growing rapidly, but this does not seem to reduce inappropriate ED use. According to Backman, Lagerlund, Svensson, Blomqvist, and Adami (2012), users triaged as non-urgent used more sources of healthcare information than PHC users, regardless of the urgency of their symptoms. The authors emphasize that the problem does not seem to be users' lack of information about appropriate ED use, but rather finding strategies to direct the information to the target group.

Based on the analysis of the results obtained in this study and in previous studies (Carret et al., 2009; Gomes, 2014; Novo, 2010; Santos et al., 2014), it can be concluded that, despite the different realities of the healthcare systems, there are similarities between Portugal and other countries regarding inappropriate ED use. Despite its importance, this study had some limitations. The definition of non-urgent ED users is controversial, and some criteria were established for inappropriate ED use based on the priority assigned by the Manchester triage system rather than rigid and very restrictive criteria (Pereira et al., 2001), which defined inappropriate ED use as episodes that did not result in the transfer, hospitalization, and death at the ED, the need for diagnostic tests or invasive procedures, among others. Univariate statistics were used for a detailed analysis of the phenomena and the population under study; however, future studies can use mixed or multivariable models for further analysis. This study analyzed data from a limited sample of non-urgent users who were selected in a specific time period, thus the results cannot be generalized. Further studies should be conducted using samples from similar institutions to further analyze the reasons for non-urgent ED use.

Conclusion

This study identified the main determining factors of non-urgent ED use: most users were women, middle-aged, had a low education level, and used the ED mostly during daytime. Patients used the ED more often on their own initiative, believing that their health condition justified it. Inappropriate ED use seems to be followed by a pattern of intensive use of health care services in general (including PHC) since the majority of users reported having access to a family doctor and using both levels of care. Additionally, it can be concluded that, on average, users waited for more than 18 days at home before going to the ED, which is longer than the waiting time for a scheduled PHC visit.

In the future, it would be important to compare urgent and non-urgent ED users because it would allow identifying the characteristics

associated with inadequate health care use. It would also be important to create structures/strategies that allow the early identification of ED hyperusers and the monitoring of the situations through the implementation of measures aimed at adjusting the access and the response of different healthcare units.

Another important pillar in this strategy would be the investment in information/dissemination of best practices in health care access (PHC and ED) with a view to raising public awareness of the appropriate use of health structures. The implementation of creative dissemination strategies directed towards health care users, particularly in the waiting rooms of outpatient visits of hospitals and PHC services, can contribute to the achievement of significant health gains.

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