Use of emergency transport by patients with cardiopathies: a focus group study

JULIA BOLÍVAR-MUÑOZ1, ANTONIO DAPONTE-CODINA1, NURIA PASCUAL-MARTÍNEZ2, FERNANDO BARRANCO-RUIZ2, JOSÉ SÁNCHEZ-CRUZ1, CARMEN MARTÍN-CASTRO3 AND ELADIO GIL-PINERO3

1Escuela Andaluza de Salud Pública, Consejería de Salud, Granada, Spain, 2Hospital Universitario San Cecilio, Granada, Spain, and 3Empresa Pública de Emergencias Sanitarias Consejería de Salud, Granada, Spain

Abstract

Background. The importance of emergency systems accessible by telephone for the early attention of patients with ischemic cardiopathy is well known. In Andalusia, this service is provided by calling 061. However, studies show an insufficient use of the existing emergency system in this type of patient.

Objective. To identify explanations related to the decision regarding the method of transport to health-care systems, by private means of transport or 061 services, for people with ischemic cardiopathy from the onset of symptoms until their arrival at the Emergency Department.

Methods. Eleven focal groups were held with subjects diagnosed with ischemic cardiopathy. The discussions were related to the method of transport (using 061 or their own means of transport to a major hospital or to a nearby health facility for onward transfer), depending on the existence of previous experience and distance to the hospital.

Results. The method of transport is related to the degree of ignorance about what is happening, perceptions regarding the fastest way to reach the hospital, people available around the patient when the event takes place, vehicle availability and possible stressful situations.

Conclusions. This study provides information about the reasons for using or not using the emergency transport systems for these patients and understanding how decisions were made. The study’s importance lies in the possibility of improving individuals’ access to health care systems through education-based actions and a strategic information and training plan that targets patients, families and health professionals.

Keywords: acute myocardial infarction, emergency medical services, qualitative study, Spain, transportation of patients, unstable angina

Mortality from ischemic cardiopathy in Spain is the number one cause of death in men and the second in women, with 12 and 10% of total mortality, respectively [1]. The majority of these deaths occur before arriving at the hospital [2]. To prevent mortality in these patients, it is essential to decrease the time that passes between the beginning of the clinical manifestation of acute myocardial infarction and the administration of thrombolytic treatment [3, 4]. A high percentage of deaths occurring in this first hour of clinical manifestation are treatable, if the patient is in an environment where the necessary resources are available [5].

Generally speaking, it is advisable to transport these patients in a properly equipped assisted ambulance, and the presence of a telephone medical emergency system is critical [2, 6–8]. In Andalusia, a region in the south of Spain, the emergency care system is formed by the Empresa Pública de Emergencias Sanitarias (Public Office for Health Emergency), which has assisted in health emergencies through the broad implementation of the 061 telephone service.

Most of the studies published on emergency transport services for these patients are quantitative. Most examine demographic, clinical and other characteristics and analyse the factors that may influence patients arriving by their own means or by ambulance, and the outcome for these patients in relation to whether or not they used the emergency services [9–12]. Only a few of these studies consider the reasons as indecision, self-treatment, perception of severity and the higher speed of one or other method, introducing open questions in their surveys [13, 14].

In the scientific literature, there is very little evidence about which issues matter whether people with ischemic...
cardiopathy choose their own means of transport or use emergency services to arrive at a health-care facility and how these decisions are made. The specific personal experiences, opinions and perceptions of these subjects, as preserved in narrative records, prove to have special relevance when discovering the circumstances that intervene in decisions regarding methods of transportation, making qualitative techniques ideal for this study [15, 16].

Qualitative investigations of health issues focus on the subjective, on motivations, and indicate the values and representations that people and groups express in their discourses and actions and, as such, are fundamental components in better understanding our object of study. The objective of this study is to identify the explanations connected with the decision to ask for urgent attention in patients with ischemic cardiopathy from the moment they note the first symptoms to their being admitted to the Hospital Emergency Services.

Methods

This study uses the qualitative investigation method known as the focus group. Eleven groups were formed. The focus group method is a meeting of a select group of people who discuss and elaborate on a topic or event based on their own personal experience. During the group interaction, information about experiences, attitudes and representations from the participants is of particular importance. This technique, particularly given the lack of information on the topic, was considered the most appropriate for this study [17, 18].

Setting

The province of Granada, in Andalusia, Spain.

Subjects and methods

Persons admitted in 2003 to Emergency and Critical Care Services with a diagnosis of acute myocardial infarction or unstable angina in the province’s two referring hospitals, San Cecilio University Hospital and Virgen de las Nieves University Hospital, both in the capital city of Granada.

A list of patients was obtained from the ARIAM register [18] at both hospitals. For each person, the name, age, municipality, telephone number, method of transportation to the health system, prior hospital visits for cardiopathy and diagnosis upon discharge were obtained. The list was in the Statistical Package for Social Science, and this program allows the randomization of cases. So, a random selection was made of people coming from the capital and the metropolitan area, who arrived at both hospitals using their own means of transport or assisted and transferred by 061 (nine groups), and of people coming from two provincial locations, Guadix to the north and Loja to the east, who went to their Heath Centre by their own means of transport and then were transferred or sent to the reference hospitals (two groups). Granada city and the metropolitan area have 55% of the total population in the province of Granada and Guadix and Loja have 14%. These two cities have emergency and health centre services and are far from their reference hospitals, Virgen de las Nieves and San Cecilio, respectively.

The different groups were formed based on the following predominant or main characteristics, in accordance with the objectives of the study.

(i) Method of transport to the health system: people who arrived using their own means of transport at the Emergency and Critical Care Service and those who called the emergency services and were assisted and transferred by 061. (ii) History of heart attacks: whether or not patients had been admitted for ischemic cardiopathy on previous occasions. The differences in distance to the hospital between the group members made it possible to detect nuances and obtain richer information.

The selected people were contacted by telephone, informed of the project and invited to participate in the study after being told it was voluntary and that the information was confidential. The composition of the groups is shown in Table 1. A total of 75 people were interested and confirmed their attendance, although the number of participants that attended the meetings was 52–42 men and 10 women aged between 42 and 76. The meetings took place between November 2004 and April 2005. The sessions were directed by a moderator. Permission was sought to tape the sessions. A focus group moderator’s guide was used, including a list of topics, shown in Table 2, which were configured based on the existing literature on the object of this study [11, 19].

Data analysis

Data analysis was done using content analysis. The information was analysed by examining the audio tape transcripts systematically and exhaustively and the topics were identified and grouped by a researcher. They were subsequently coded, identifying themes and patterns and areas of convergence and divergence by the same researcher [20]. The analysis was independently reviewed by another member of the research team, and the discrepancies were discussed until a consensus was reached. The computer program used for the analysis was Nudist Vivo [21].

Results

The explanations related to the decision to use private transport or 061 according to the perceptions of participants are presented below. These results can be grouped into eight themes:

(i) Ignorance of what was happening is the main explanation for the choice of the method of transport, especially in the case of those people who used their own means of transport. This ignorance refers to the illness itself, to the seriousness of the process they were undergoing.

What’s happening is that, you can’t… even say it’s serious, or that it’s your heart, that it’s something else, you’re not thinking about that … It’s just that right then you’re not thinking.”
Their ability to drive by ‘self-control’ and a general perception of a slow progression of the symptoms are related with the decision to go to the hospital using their own means of transport. Users and non-users converge in the fact that they did not think it was a heart attack.

‘...I didn’t think that I was in good enough shape to get the car and go to the hospital. And keeping in mind the time that had passed, the best thing in my case was to call 061 (...). The idea that I had the symptoms of a heart attack didn’t occur in my case. I had an idea of constant, sharp stabbing pain in your chest that goes down your arm and I didn’t have that. I didn’t think it was a heart attack, but I did think it was going to be hard to drive.’

Calling 061 is associated with severe or extreme situations.

‘I didn’t feel well, but I was well enough to come on my own, so I think I associate it more with accidents, or serious things, something really serious...’

‘It depends, you know, on how serious you think it is, if you feel really, really bad maybe you think about 061, but if you just have a little discomfort, you think, I can get myself there, no rush.’

The subjects express the idea that the patient is ‘abusing’ a service that they do not consider necessary in that they feel well enough to use their own means of transport or do not

---

**Table 1** Number and composition of the focus groups

<table>
<thead>
<tr>
<th>Method of transportation</th>
<th>Participants from</th>
<th>Place meetings held</th>
<th>Antecedents</th>
<th>Number of groups</th>
<th>Mean of group size</th>
<th>Characteristics of the subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own means of transport</td>
<td>Capital and metropolitan area</td>
<td>Hospital</td>
<td>No</td>
<td>4</td>
<td>5.25</td>
<td>Male</td>
</tr>
<tr>
<td>Own means of transport</td>
<td>Capital and metropolitan area</td>
<td>Hospital</td>
<td>Yes</td>
<td>2</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>061</td>
<td>Capital and metropolitan area</td>
<td>Hospital</td>
<td>Yes/No</td>
<td>3</td>
<td>4.3</td>
<td>10</td>
</tr>
<tr>
<td>Own means of transport (Health centre)</td>
<td>Guadix and Loja</td>
<td>Health centres of Guadix and Loja</td>
<td>Yes/No</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

**Table 2** Analytical categories related to the decision regarding the method of transport to the health system in people suffering from ischemic cardiopathy

<table>
<thead>
<tr>
<th>Analytical categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>About the first symptoms:</td>
</tr>
<tr>
<td>- Knowledge about the illness when the first symptoms appear</td>
</tr>
<tr>
<td>- Reactions to the symptoms</td>
</tr>
<tr>
<td>- Perception of the speed of progression</td>
</tr>
<tr>
<td>- Interpretation and evaluation of seriousness.</td>
</tr>
<tr>
<td>- Personal experience from appearance to admission to the hospital emergency</td>
</tr>
<tr>
<td>Knowledge about the system</td>
</tr>
<tr>
<td>- Knowledge about care facilities</td>
</tr>
<tr>
<td>Persons around them</td>
</tr>
<tr>
<td>- Family members living together or other people in the vicinity at the time of the episode</td>
</tr>
<tr>
<td>- Other people’s reactions to the symptoms</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td>- Distance</td>
</tr>
<tr>
<td>- Accessibility</td>
</tr>
<tr>
<td>- Availability of own methods</td>
</tr>
<tr>
<td>Stressful situations:</td>
</tr>
<tr>
<td>- Data and information required from patients or family members during the prehospitalization period</td>
</tr>
<tr>
<td>- Evaluation of the medical and technological deployment around the patients related to the perceived seriousness</td>
</tr>
</tbody>
</table>
realize that it could be ‘that’ or do not have prior experience with infarction or angina.

“There are also other people misusing it for any old thing. And I’ll say this: I have to feel really, really, really bad to use a public service, maybe I’m a bit tough with this, you know?”

(iii) The ‘speed’ of one or another method. For people who used their own means of transport, having to contact the service by phone and provide information about where they were and their symptoms and then wait for the ambulance to appear is a negative factor and is considered to be a waste of time, especially for those who were in municipalities far from the capital and placed their priority on getting to the hospital or health centre fast.

‘But you don’t trust the ambulances, because it’s always the same. Where are you, if you’re not there, what’s wrong and does your foot hurt or not hurt…and and you realize they are doing an interrogation, you’ve lost ten minutes.’

On the other hand, people who used 061, both those who were in the capital and those in the municipalities farther away, think it is an advantage to be attended by professionals from the moment they call in addition to the speedy assistance and transportation the service provides. These patients say that health assistance did not begin in the hospital, but as soon as they called 061. In addition to mentioning fast attention, these patients refer to safety and other aspects that could be more important than how fast they get to the hospital or health service.

‘Well, if I go, I’m detained while I go get the car, go into Emergency, explain what happened, they see me, do the electro, at least an hour and a half has gone by…On the other hand, when you go in with 061, it’s like, you know, when you’re talking on the phone, you’re listing the symptoms, and they’re passing them to someone else, they already know what it is when they are coming up and they come up with their kit, they come up with everything and they know what they are going to do.’

(iv) Distrust in ambulances or a prior bad experience appears in patients’ opinions as a factor that influenced their decision to use their own means of transport.

‘There’s also something in what people say, maybe a total exaggeration, you know? Can you believe that we called the ambulance ten minutes ago and they’re still not…they took twenty minutes, maybe it’s this idea that we have…that while the ambulance is coming I’m going to die, well, maybe that’s wrong, you know?’

(v) ‘Other people in the vicinity’. Having other people around at the time of the event like family, friends or colleagues is important in the action, both in the case of patients who used their own means of transport and those who used emergency services.

‘It’s not what the patient wants, it’s what the people around want, it’s the family who decides. It’s not a factor you can decide…it’s almost always like that…’

(vi) The ease of access to alternative means of transport: cars, public transport or walking

‘I think that while you’re thinking yes or no, well, if the car is right there, you grab it and leave honking the horn.’

Proximity and ease are concepts that seem to influence people who go to the hospital using their own means of transport.

‘I sincerely believe in taking your car or going on your own, not because it’s more or less advantageous, it’s just the nearest thing you’ve got.”

“I didn’t think about it (calling 061) among other things because I was really close to a taxi stand and it was a lot easier to take a cab and come here.”

Walking was associated with the proximity of the hospital or health centre.

‘It hit me when I was really nearby and I walked…’

A combination of different issues is related to the patients’ decision to use their own means of transport or call 061. In this respect, the accessibility of the place where the heart attack takes place or the distance to the hospital, combined with the presence of other people and the availability of a vehicle, is related to the idea that using their own means of transport is fast.

‘I came on my own because I think that it was the fastest way to get here, because I was, I was in the country and it was going to be impossible for the ambulance to get there, for one they weren’t going to find it, between that and that I was with my family, well, they got me here quickly.’

‘Well I was at kilometre 11, then while you call the ambulance and the ambulance leaves, picks me up, faster to have my husband take me to Emergency, which is what we did.’

(vii) ‘Desire to avoid stress for self and family’. When a patient is aware of the seriousness of the situation, the assorted medical apparatus that accompanies the ambulance doesn’t seem important, although some do have the opinion that ‘there’s all that apparatus and drama when they come to your house’ as well as responses like, ‘later all the neighbours asking you what happened?’

‘Embarrassed? No. When you feel bad you don’t think about…The neighbours? They can deal with it! (Laughter)’

‘Well, she (my wife) wanted to call for an ambulance, but it wasn’t necessary, really, all this apparatus that comes to your house and so we went down and we were going to call a taxi and a neighbour from there offered straight out to take me and the second time I took my own car…’

The impact that calling an ambulance might have on the family was also present. These commentaries appear in one of the groups that called 061.
What is true is that it's a blow for the family, isn't it? When 061 enters your house and they took me down the hall in one of those things with four wheels, hell, I saw my kids and my wife and I don’t know who was worse, them or me…'

Thinking that it could be a ‘false alarm’, which is associated with a lack of prior experience with these symptoms, can negatively affect any intention to use the service. People using 061 consider that the professionals are already aware of this.

‘When you already have experience with it, yes, but if you don’t know and now you tell me that it’s gas and you call 061 and they’ve come because you have gas’

‘Ok, but when you call, they distinguish between the things. (/…). Based on the symptoms that you describe, well, they’re not going to give you a diagnosis, of course, but they know how serious it is and what it could be and based on that I think they can distinguish between things. They’ll send an ambulance or an emergency mobile unit’

(viii) Among patients with previous experience, who have faced various episodes of heart attack or angina, there are those who always use their own means of transport and those who always turn to 061. There are also those who used both methods on different occasions. Among the patients who never used the service, the opinion about whether they would call emergency services in case of a new thoracic pain is not unanimously uniform. Instead, it is related to issues such as where it occurs, the availability of a vehicle, whether they are with other people and other elements. The people who had already had experience with using 061 generally would not hesitate to use the service again, although there are variations in the actions of people who have experienced more than one episode of heart attack or angina. The ‘user’ and the ‘non-user’ do not always stay in the same category.

‘After it happened several times, I had had angina and a heart attack, most of the time I went on my own. I came in my car or I was at home and I told my daughter to take me to the hospital because I have a suspicious pain and it did turn out to be a heart attack. Only once did I call 061 and the truth is that they came quickly and treated me very well, there weren’t any problems.’

Discussion

The results from this work are consistent with other studies. The main reasons for not calling emergency services in studies conducted outside Spain were not considering the situation sufficiently serious, not thinking of calling, considering it unnecessary, that it seemed to be easier and faster to take a taxi or go in someone’s car, not wanting to be a bother, the idea that other people may be in more need and not knowing well what these services provide. All these issues form part of the reason these patients had for not calling the emergency services [9, 19, 22, 23].

In our study, the subjects who used their own means of transport did so because of their perceptions of comfort, proximity and ease. Moreover, they associate the 061 service with a serious situation, where ‘you can’t move’ or you feel ‘really bad’, and the general perception is of not feeling sufficiently ill. Not thinking it was a heart attack was common in users and non-users. The idea that other people in a more serious condition may need these services also plays a role. In terms of the speed of one method or the other, users consider that attention starts as soon as you phone and for non-users the attention starts when they enter the hospital. Moreover, they also pointed out the different circumstances that can occur to explain their decision regarding how to travel, showing that the fact that they had used the service in the past does not mean that they will necessarily use it again in the future.

The literature proves that patients with acute myocardial infarction that did call the ambulance had more severe symptoms than those who used their own means of transportation [24] and experience higher mortality, related to their advanced age, the presence of other pathologies or a history of heart attack and other issues [10]. The study of Canto et al. highlights the need for future studies to examine psychological factors, such as denial by the patients, a feeling of self-control or embarrassment as influential in choosing to use their own means of transportation. [11] Our results show that although the lack of knowledge and feeling of self-control are some of the reasons given by these patients for their choice to use their own means of transportation, they did not share the same opinion about the embarrassment that these people may feel when confronted by the deployment of technological apparatus that results from calling the ambulance.

No studies that consider the influence of the setting, family or friends on the decision regarding the method of transportation have been found, although co-habitation and the place that the event took place have been studied as issues that can affect prehospital delay [25]. According to a qualitative study carried out in UK, some wives took the initiative to act in the face of a lack of willingness on the part of their husbands who did not want to cause worry. Additionally, often when another person calls the services, the patient feels less guilty [22]. A systematic review of delay in such patients emphasize the need of interventions aimed to reduce the fear of wasting health resources and to evaluate how patients and their partners and family make the decision to call for help [25]. Our study shows the importance of this, especially with family, when it comes to deciding what to do when symptoms manifest themselves.

Limitations of the study

It was not possible to include very elderly people in this study, due to health problems or some other limitation that made it difficult for them to attend the sessions. It is possible that the issues that affect decisions made by these people about the method of transport are to some extent different.

Other issues that may affect the results are related to the distance of the reference hospital. We do not know if there
would be differences in the results from individuals who live in smaller towns that are not equipped with health facilities, such as health centres and hospitals.

The fact that the patients were interviewed a few months after the events took place may have modified their perceptions. In addition, the average size of the groups is quite small, which may have decreased the breadth of information.

Finally, a selection bias must be considered, since the participants in this study are survivors of ischemic cardiopathy, which has high out-of-hospital and in-hospital mortality.

Conclusions

This study has made it possible to identify some explanations about how patients and their partners and family make the decision regarding the method of transportation to the health system. The main aspects highlighted are the ignorance about the illness, seriousness of the process they were undergoing, non-recognition of symptoms and different perception of ‘speed’ in users and non-users. Other relevant questions are the importance of family and partners in the decision and the combination of different issues in the decision-making. The possibility of using both methods on different occasions indicates that the ‘user’ and the ‘non-user’ do not always stay in the same category.

The importance of this study lies in the possibility of increasing our knowledge about how to improve the actions related to the attention such patients are given. The actions must be oriented to health education and information or advertisements, and not only for cardiopathic patients. It must be borne in mind that friends and family have an important influence on the decision and choice of means of transport to the health system. Although it might be difficult to affect beliefs, perceptions, etc., related to the illness and seriousness of the situation for a person who is suffering from ischemic cardiopathy, it is necessary to better educate the public on the importance of speed in establishing treatment and about the service offered by 061.

We emphasize the need for a strategic plan of information, training and assessment in three areas. First, patients diagnosed with ischemic cardiopathy and their family. It is necessary to generate intervention strategies aimed at patients or people at potential risk, to improve the understanding of this disease and the effect that the variable time has on its prognosis. Moreover, primary health-care professionals must be included in the information plan. Finally, the interventions and health programmes aimed at these patients should be evaluated to determine their effectiveness.

Funding

Consejería de Salud, Junta de Andalucía. Expediente 84/03.

References


*Accepted for publication 14 August 2007*