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Decision making processes in people with symptoms of acute myocardial infarction: qualitative study

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Abstract

Objective To identify the themes that influence decision making processes used by patients with symptoms of acute myocardial infarction.

Design Qualitative study using semistructured interviews.

Setting Two district hospitals in North Yorkshire.

Participants 22 patients admitted to hospital with confirmed second, third, or fourth acute myocardial infarction.

Main outcome measure Patients' perceptions of their experience between the onset of symptoms and the decision to seek medical help.

Results Six main themes that influence the decision making process were identified: appraisal of symptoms, perceived risk, previous experience, psychological and emotional factors, use of the NHS, and context of the event.

Conclusions Knowledge of symptoms may not be enough to promote prompt action in the event of an acute myocardial infarction. Cognitive and emotional processes, individual beliefs and values, and the influence of the context of the event should also be considered in individual interventions designed to reduce delay in the event of symptoms of acute myocardial infarction.

Introduction

People having an acute myocardial infarction need to receive treatment as quickly as possible.¹ Clinical trials have shown reductions in morbidity and mortality in patients treated with thrombolysis within one hour of the onset of symptoms.²⁻⁴ Delay by patients in seeking medical help, rather than the time from services being contacted to treatment being started in hospital, is the most significant cause of delay in treatment.⁵ The aim of this study was to explore patients' thoughts and feelings at the onset of symptoms of heart attack, their perceived reasons for deciding to seek medical help, and the things that delayed them in making this decision. We did this study with a view to improving the outcomes of educational interventions to reduce delay.

Many studies have investigated sociodemographic and clinical factors that predict delay, and some have examined the appraisal and knowledge of symptoms of acute myocardial infarction as a factor.⁶⁻¹¹ This research has prompted interventions to improve people's knowledge of the symptoms of heart attack and the correct action to take when faced with these symptoms. However, the effectiveness of public awareness campaigns or education for patients in decreasing delays is uncertain.¹² Some studies report that although such measures may increase knowledge, they are unlikely to change behaviour.¹³⁻¹⁵ Other studies report some reduction in the median time from onset of symptoms of acute myocardial infarction to arrival in hospital.^{16 17} It has also been reported that patients with

a second infarct take as long to seek help as those having their first one. Not all studies agree on this point, but there may be more to decision making than knowledge of the symptoms of heart attack.^{5 14 18} For this reason, we studied patients who had had at least one previous acute myocardial infarction.

Methods

We conducted the study in two district hospitals in North Yorkshire. We included patients with confirmed acute myocardial infarction who had had at least one infarction previously and were able to communicate in English. Semistructured interviews ranged from 30 minutes to over an hour, were conducted in a private room, and were audiotaped. If a partner or relative had been present during the decision making time they were interviewed separately from the patient.

We asked participants to recount their experience of the heart attack. We also asked them about differences between this and previous acute myocardial infarctions, the severity of symptoms, and whether they had perceived themselves to be at risk of an acute myocardial infarction.

After each interview we analysed the new data and developed new codes and themes for use in subsequent interviews. Saturation of data, whereby no new and relevant material arose, was achieved by the time 22 interviews had taken place.

Results

Twenty men and two women participated in the study. We also interviewed 10 spouses and one son who were present at the time of the event. Six themes emerged that seem to influence decision making processes (box 1). Each theme encompasses two or three interlinking and shared concepts.

Appraisal of symptoms

The appraisal of symptoms was a dynamic process throughout the decision making time. Identifying and labelling symptoms often posed problems, and many participants thought that their symptoms were not severe enough to be a heart attack. Instead of being "crushing chest pain," many heart attacks were

Box 1: Factors influencing the time to action

- How symptoms are perceived and appraised
- Perceptions of risk of having an acute myocardial infarction
- Previous experience of symptoms of acute myocardial infarction
- Individual psychological or emotional factors
- Beliefs about the appropriate use of the NHS
- The context in which symptoms were experienced

Box 2: Appraisal of symptoms

Patient 14—male, aged 62; second myocardial infarction. Previous infarction seven years previously. Two previous “false alarms,” the second two weeks earlier. Decision time 13 hours.

“I had a slight chest pain. I didn’t think too much of it because actually I had eaten some chips and I thought these chips had stuck in my chest, and you know, often when you get that sort of heartburny thing. But then it got to 5 o’clock and 6 o’clock and it went on till 10 o’clock and I still had this pain, but it started to get a wee bit worse and I put up with it until about three in the morning, and then I tried my spray a few times and that didn’t work. I thought this can’t be heartburn or indigestion or something, as those are the first things you think of obviously. I decided to ring the doctor.”

reported to have had a slow onset with only mild pain and breathlessness. Many participants were confused by the fact that their symptoms were similar to angina or indigestion; many had experienced prodromal symptoms in the previous few days, which led to a normalising or minimising of symptoms (box 2).

Perceived risk of acute myocardial infarction

Most patients who had always had a “healthy” lifestyle, or had changed their diet and smoking habit, and had had cardiac rehabilitation since their previous heart attack, thought that this would protect them from future cardiac problems (box 3). Some patients who had had a coronary artery bypass graft or percutaneous transluminal coronary angioplasty believed they were no longer at risk of an acute myocardial infarction. Thus some patients were bewildered as to the cause of their symptoms. People had tried to put their previous heart attack to the back of their mind and get on with life. Many of those who did not perceive themselves to be at risk reported taking longer to appraise symptoms and acted only when the pain or breathlessness became unbearable.

Previous experience of acute myocardial infarction

Twenty (91%) participants reported that the symptoms were not similar to those of any previous acute myocardial infarction (box 4). This usually slowed down the decision making process, as several participants were confused by the different symptoms. Several people reported that it was only when a symptom in common with the previous acute myocardial infarction occurred that they summoned medical help.

Six participants had previously experienced a “false alarm” (that is, they ascribed their symptoms to an acute myocardial infarction when this was not the case), but not all of them reported this as a factor that influenced their time to seek help. Those who said that they did not want to be embarrassed again by feeling “a fraud” reported a previous false alarm as having delayed their decision to seek help.

Psychological factors and emotional response

Many people did not want to believe that they were having a heart attack, tending to play down or ignore symptoms and wait until they became worse before seeking help. Even though many patients admitted to knowing that it was an acute myocardial infarction,

they also admitted that, illogically, they “hoped it would go away” (box 5).

Fear and embarrassment at the possibility of being wrong in ascribing their symptoms to a heart attack, and even at having vomited, were also given as reasons for delay. Some patients seemed to find it difficult to relinquish control, wanting to manage the symptoms themselves and not go into hospital. These participants waited several hours in pain.

Use of the NHS

All participants apart from one felt a concern about wasting NHS time and resources, especially ambulances. It seems that many people do not want “to bother” the doctor, and they feel guilty about it (box 6). A common perception was that the correct action was first to phone a general practitioner, who would then get an ambulance. This perception may have been reinforced by ambulance services often asking whether a doctor had been called. Even those who had previously been told to phone an ambulance felt reluctant to do so, having a strong feeling that ambulances are for emergencies and that this was not an emergency.

Context of the event

The presence of another person seemed to influence the decision making process. For example, in some cases an increase in pallor was noticed by others, and,

Box 3: Perceived risk

Patient 11—male, aged 71; third myocardial infarction. Previous infarctions three and six years previously. Decision time 30 minutes. Had severe pain in left arm and left side. Previous heart attack had involved central chest pain. He didn’t think it could be another one. His wife took action.

“Because I believe you feel, it is not happening to me . . . especially in my case having had two bypass operations. I think well this can’t happen, you see. But my wife had no hesitation after I had used the spray twice.”

Box 4: Previous experience

Patient 16—male, aged 76; second myocardial infarction. First infarction three years previously. Decision time five hours.

“It was right across my chest. You see the last time I had a heart attack I was full of . . . well I thought it was flatulence. I was trying to, burp you might say, almost continuously and this pain was nothing like that in that respect and that’s why I thought, well, it’s not a heart attack.”

Box 5: Psychological factors

Patient 21—male, aged 53; third myocardial infarction. Decision time seven hours.

“Perhaps it is this fear of death and you say, if I am going to admit I am having a heart attack, I am going to admit I might be dying. And I don’t want to admit that, so perhaps if I pretend it is not a heart attack, it might just go away.”

Patient 3—male, aged 75; second myocardial infarction. First infarction two months previously. Decision time two hours. He rang a relative and then waited until he got hold of him rather than ringing the ambulance, because of embarrassment at having vomited and being unable to climb the stairs to get a clean shirt.

“This thing, dirty T-shirt, put me off ringing anybody. So if I had got a clean T-shirt I think I would have rung earlier. You worry about daft things really, don’t you?”

What is already known on this topic

Individual sociodemographic and clinical characteristics affect the time to seeking medical care in patients with symptoms of acute myocardial infarction

Appraisal of symptoms is difficult; people with classic and severe symptoms are more likely to take prompt action

What this study adds

The decision to seek medical help in patients who have had one or more previous myocardial infarctions is a complex process

Simply providing patients with information on symptoms of acute myocardial infarction, and what to do in the event of these symptoms, may not be sufficient to promote prompt action

after discussion with the patient, the other person phoned for help (box 7). Also, if someone else phones, the patient feels less guilty about it, as responsibility is taken away. Several spouses reported the reluctance of their partners to “make a fuss,” so the spouses made the decision.

The time and place of the event seems to influence action. People were reluctant to seek medical help during the night and at weekends. Those who were not at home wanted to get back there to try to manage the symptoms or contact their own general practitioner, rather than going directly to hospital.

Discussion

This study helps to provide an understanding of the factors influencing the decision making process in people with symptoms of a heart attack. Analysis of the data provides a picture of the multiple realities and explanations in patients' accounts of their acute myocardial infarction, with six main themes that influence the decision to seek help emerging. The study did not set out to formally correlate the themes to the time taken before seeking medical help.

Qualitative research does not aim to produce findings that are generally transferable to other people. However, given that data were collected until

saturation was reached and no new themes emerged, this study may highlight issues that are relevant to many patients who have had an acute myocardial infarction. The themes influencing decision time may also be applicable to patients experiencing a first acute myocardial infarction. However, the study had a low representation of women, and, although participants came from a broad range of socioeconomic backgrounds (as judged by profession and housing type), we cannot assume that other themes would not arise in other localities and cultural groups.

Although our findings are consistent with those of other studies in indicating that patients have difficulty recognising and evaluating symptoms,¹⁹ this study adds to previous knowledge by showing that the decision to seek help is a complex interaction of knowledge and experience, beliefs, emotions, and the context of the event. This implies that knowledge of symptoms and of the correct action to take will not on its own shorten decision time. Yet interventions based around simple messages, mainly related to knowledge of symptoms and what to do in the event of these symptoms, are still being recommended.²⁰ Also, as this study found that most participants had different symptoms from those in their previous heart attacks, patients need to be warned that a future infarction might not be similar to the previous one. The frequency of atypical symptoms may increase with age.²¹

These findings might usefully inform strategies to reduce delay in seeking help in people having an acute myocardial infarction. Many factors influence the decision to seek help, and no single determinant seems to have overall primacy. This implies that interventions to reduce delay should be tailored to cover the six themes identified and should explore these factors with each patient individually. This may lead to more effective coping strategies in the event of acute myocardial infarction.

Such interventions could be carried out with patients before they are discharged from hospital. Because of the influence of other people in facilitating the decision to get help, family members and wardens of sheltered housing might usefully participate in these interventions. A similar approach in the primary care setting may be beneficial for people who are at risk but who have not yet had an acute myocardial infarction. The effects of such interventions will need to be evaluated.

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Box 6: Use of the NHS

Patient 13—male, aged 60; second myocardial infarction. Decision time nine hours. He tried to control the pain of the infarction, as he saw it as kind of continuum with angina at one end and heart attack at the other.

“I think the main thing is that you don't want to be a burden on anybody, well most men don't—you know and I think that if you go into hospital and you have to call an ambulance I still believe that dialling 999 is what it stands for—in emergency. I would never use it.”

Box 7: Context

Patient 4—male, aged 64; fourth myocardial infarction. Decision time 30 minutes. He managed to explain thoughts expressed by many other patients—that if someone else is with you, it not only reduces fear but also takes away the responsibility of the decision.

“They took the decision for me, so it was nice that somebody takes the decision away from you.”

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Prospective audit of records of deceased patients received in hospital mortuary

Y L Hock, P Stewart, E Livesley

Mortuary services in hospitals have generally been given little attention by clinicians, the media, or the public. However, recent stories about improper storage of bodies and organs have generated public interest in both pathology and mortuary services.¹⁻³

Response to the media stories shows that the public expects the standards of care and attention given to the deceased to be the same as those for living patients. However, our experience, and that of pathology colleagues, suggests that clinical staff do not pay enough attention to the documentation related to deceased patients. Although this is understandable given the increasing workload of clinical staff and staff shortages, it is unacceptable. To investigate the errors or omissions in the documentation accompanying deceased patients, we audited the documents accompanying all deceased patients in the hospital over four years.

Methods and results

We prospectively audited the documentation relating to 7761 bodies received in the mortuary of the Walsall Hospitals NHS Trust during 1996-2000. Bodies were received from funeral directors and ambulance crews as well as hospital wards. We checked wrist bands, labels, and identification papers against the patients' registration details on the hospital patient management system for any discrepancies. We also checked accuracy of recording the presence of a pacemaker and property for each body. Bodies for which there was one or more discrepancy were classified as failed cases. Annual failure rates are expressed as the percentage of failures in a financial year (April to March). The study was part of an ongoing internal quality assurance audit, and ward managers and funeral directors were

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Accuracy of documentation for bodies received in hospital mortuary

Financial year (April-March)	Total No of bodies	No (%) with documentation failure	Type of discrepancy (hospital deaths only)					
			Name*	Address	Unit No	Wristband	Property	Pacemaker
1996-7:								
All bodies	1920	196 (10.2)						
Hospital deaths	1484	177 (11.9)	12	8	24	87	38	8
1997-8:								
All bodies	1835	143 (7.8)						
Hospital deaths	1312	139 (10.6)	6	2	14	73	27	17
1998-9:								
All bodies	1947	95 (4.9)						
Hospital deaths	1363	94 (6.9)	3	11	9	49	16	6
1999-2000:								
All bodies	2059	60 (2.9)						
Hospital deaths	1460	58 (4.0)	4	6	7	28	11	2

*Minor typographical errors are excluded.