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Are Patients Losing Their Chance of Survival Because They Are Unaware of Having a Myocardial Infarction? A Phenomenological Study

Hastalar Miyokard Infarktüsü Geçirdiğini Bilmedikleri İçin mi Hayatta Kalma Şansını Kaybediyorlar? Fenomenolojik Bir Çalışma

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ABSTRACT

Objective: The aim of this study was to explore the experiences of patients with myocardial infarction and their relatives. **Methods:** This qualitative and phenomenological study was conducted with 20 patients hospitalized due to the diagnosis of myocardial infarction and 15 relatives. A semi-structured interview form and data collection form including socio-demographic characteristics were used. The data of the study were collected using the in-depth individual interview method and were assessed using the phenomenological approach developed by Colaizzi. The researchers analyzed statements of the participants regarding their experiences and prepared categories and themes. **Results:** Three categories and seven themes emerged as a result of the data analysis. These categories included symptom experiences, views about death, transportation to health care facility. The statements of participants revealed that patients experienced various symptoms including sweating, chest pain, gastrointestinal system symptoms, shortness of breath, yellow and purple skin tone. It was also determined that they generally had a lack of knowledge about myocardial infarction symptoms, could not associate symptoms with myocardial infarction, attributed myocardial infarction to other matters, used various ineffective methods to cope with symptoms. The majority of the patients arrived at the health care facility by self-transport and some patients even drove themselves to the health care facility. **Conclusion:** Participants had a lack of knowledge about the symptoms of myocardial infarction and appropriate transport to the health care facility, for example, utilizing an ambulance. This, in turn, prolongs the period of prehospital delay that has an effect on the chance of survival and receiving an effective treatment.

Key words: Myocardial infarction, nursing, prehospital delay, qualitative research

ÖZET

Amaç: Bu çalışmanın amacı, miyokard infarktüsü geçiren hasta ve yakınlarının deneyimlerini incelemektir. **Yöntem:** Bu niteliksel ve fenomenolojik çalışma miyokard infarktüsü tanısı ile hastanede yatan 20 hasta ve 15 hasta yakınıyla yürütülmüştür. Verilerin toplanmasında yarı yapılandırılmış görüşme formu ve sosyodemografik özellikleri içeren form kullanılmıştır. Veriler, derinlemesine bireysel görüşme yöntemi kullanılarak toplanmıştır. Elde edilen veriler Colaizzi tarafından geliştirilen fenomonolojik veri analizi yöntemiyle değerlendirilmiştir. Katılımcıların deneyimlerine ilişkin ifadeleri araştırmacılar tarafından analiz edilmiş, kategori ve temalar oluşturulmuştur. **Bulgular:** Veri analizi sonucunda üç kategori ve yedi tema belirlenmiştir. Kategoriler; semptom deneyimleri, ölüme ilişkin düşünceler ve sağlık kurumuna ulaşımdır. Katılımcıların ifadelerinden; hastaların terleme, göğüs ağrısı, gastrointestinal sistem belirtileri, nefes darlığı, cilt renginde sararma ve morarma olmak üzere çeşitli semptomları deneyimledikleri belirlenmiştir. Ayrıca, miyokard infarktüsü belirtileri hakkında genel bir bilgi eksikliklerinin olduğu, semptomlar ile miyokard infarktüsünü ilişkilendiremedikleri, hatta başka şeylere atfettikleri ve semptomlarla baş etmek için etkin olmayan çeşitli yöntemlere başvurdukları tespit edilmiştir. Hastaların çoğunun sağlık kuruluşuna başvuruda kendi özel araçları ile ulaştığı ve bazı hastaların araçlarını kendilerinin kullandığı saptanmıştır. **Sonuç:** Katılımcılar, miyokard infarktüsü belirtileri ve örneğin ambulans kullanımı gibi sağlık kurumuna uygun ulaşım hakkında bilgi eksikliğine sahip olduğu saptanmıştır. Bunun sonucunda ise etkin tedavi olma ve hayatta kalma şanslarını etkileyen hastane öncesi gecikme süresi uzamaktadır.

Anahtar kelimeler: Miyokard infarktüsü, hemşirelik, hastane öncesi gecikme, niteliksel araştırma

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INTRODUCTION

Cardiovascular diseases are one of the leading causes of death worldwide.[1] Myocardial infarction (MI) is the leading cause of death due to cardiovascular diseases. MI develops due to ischemia causing cardiac muscle necrosis.[2] The guidelines suggest that reperfusion therapy be applied immediately after symptoms.[3,4] Early treatment may decrease morbidity and mortality. One of the most important reasons for not applying early treatment during MI is prehospital delay[5], which increases the cardiac damage and decreases the chance of survival of the patients.[6]

Nevertheless, many patients wait for several hours to apply to the hospital after the onset of MI symptoms, thus only prolonging the prehospital period.[7,8] The literature reveals various causes of the prehospital delay. One of these reasons is a lack of knowledge about MI.[8-10] It has been reported that while patients evaluating MI symptoms as non-cardiac have a longer prehospital delay[11], of those evaluating MI symptoms as cardiac have a shorter prehospital delay.[12] Symptom mismatch also leads the patient to delay of care-seeking behavior[13] and prolong pre-hospital delay.[12,13] Another reason for prolonging prehospital delay is actions made to decrease MI symptoms.[10] Upon onset of symptoms, patients realize various actions to deal with them rather than seeking emergency aid.[6,13]

Not calling an ambulance during MI also prolongs pre-hospital delay.[14,15] The studies have revealed low rates of calling ambulance during MI.[10,16] Some patients drive themselves to the health care facility.[14] Furthermore, patients who fail to identify their symptoms as cardiac are more likely at arrive to the hospital by self-transport and have a longer delay period.[13]

It is essential to know the views of patients, their interpretations about symptoms, and their actions to minimize prehospital delay and time of deciding to seek medical aid.[17]A life-threatening condition such as MI affects both patients and their relatives. It is essential to know the experiences of patients and their relatives to develop appropriate nursing interventions and ensure patients benefit from the healing process.[18] It is also important to recognize the actions of patients and their relatives during MI, their interpretations about symptoms, and the methods they use for coping with symptoms to determine the nursing practices to be made for shortening the period of prehospital delay. There has been no qualitative study conducted on this subject in Turkish society. The aim of this study was to explore the experiences of patients and their relatives including the actions of their during MI, their interpretations about symptoms, and the methods they use for coping with symptoms.

METHODS

Study Design and Participants

This was a qualitative study using the phenomenological analysis. The study was conducted at the coronary intensive care unit (CICU) of a training and research hospital located in Turkey. The inclusion criteria for the patients were as follows; being 18 years old and over, having stayed at CICU for minimum 48 hours due to the diagnosis of MI, and having no communication problem. The inclusion criteria for the patient relatives were as follows; being 18 years old and over; being a relative of those having stayed at CICU for minimum 48 hours due to the diagnosis of MI, being with the patient during MI, and having no communication problem. Firstly, the patients and their relatives were evaluated in terms of the inclusion criteria. All participants, who were interviewed by the researchers during the study process and met the inclusion criteria, agreed to participate in the study. Twenty patients and 15 patient relatives were included in the study conducted between 1 August 2015 and 1 January 2016. They were informed that their answers to the questions would be recorded using an audio device, the data to be obtained from the participants would be shared only with the researchers and they would not be used for any other reason except for the purpose of the study. The purposeful sampling method was used in this study. This method is used in qualitative research to determine and select information-rich cases related to the phenomenon of interest.[19]

Data Collection

The data were collected using a semi-structured interview form (Table 1) and a data collection form including socio-demographic characteristics that was prepared upon the literature review.[11,20-22] The in-depth individual interview method was used in the study. The interviews were conducted at least 48 hours after MI using the face-to-face interview method. The interviews were conducted by a female interviewer (DB-second author) who was a Ph.D candidate in the department of internal medicine nursing. The interviewer had experience in internal medicine nursing, had training in qualitative research, and had a master of science degree in the department of internal medicine nursing. The interviews were carried with the patients at the bedside in the intensive care unit and with their relatives in the waiting room. Before starting the interviews, the interviewer introduced herself, informed the participants about the purpose of the study and other necessary information, and obtained their verbal and written consents. Interviews were conducted once and each interview lasted for approximately 25-30 minutes. The interviews were conducted with the participant only

and no one else was included. The answers of the participants for open-ended questions in the semi-structured interview form were recorded using an audio device and then audio records were transcribed. The field notes were prepared by the interviewer during and after interviews. At the end of the interview, the content of the interview was summarized to the participants, and experiences were reviewed by the participants.

Data saturation is a commonly proposed criterion to determine the sample size in qualitative research. Data saturation has become known as an indicator that sufficient data collection has been achieved.[23] In this study, when the data collected from participants started to repeat, it was decided that the data saturation point of the study was reached and the data collection process was terminated.

Table 1. Interview form

Semi-Structured Interview Questions for the Patients with Myocardial Infarction
1. Can you tell us the first symptoms enabling you to recognize that you had a heart attack? 2. How did you decide to apply to health care facility? How did you apply to health care facility? 3. Could you tell us about what you went though/experienced, starting from the moment you felt the first symptom until you arrived at an emergency department? 4. Could you tell us about what you experienced in the emergency department? 5. Have you had similar experiences before? If so, could you tell us about them?
Semi-Structured Interview Questions for the Relatives of the Patients with Myocardial Infarction
1. Can you tell us the first symptoms enabling you to recognize that your relative had a heart attack? 2. How did you decide to apply to health care facility? How did you apply to health care facility? 3. Could you tell us about what you went though/experienced, starting from the moment your relative felt the first symptom until he/she arrived at an emergency department? 4. Could you tell us about what you experienced while your relative was staying in the emergency department? 5. Have you had similar experiences before? If so, could you tell us about them?

Data Analysis

The descriptive statistics were used to determine descriptive characteristics of the participants. The qualitative data were evaluated using the phenomenological data analysis method developed by Colaizzi (1978).[24] Through this method, three researchers analyzed the statements of the participants, prepared the categories and themes through Colaizzi's seven-step method, and presented them in the results section. In the first step, all interviews were recorded using an audio device, and then audio records were transcribed. All researchers read all transcripts of the participants' interviews several times and took notes. These notes were compared with notes of the other researchers for similarities. The transcripts were read again as needed to obtain a general understanding of the data. In the second step, in each transcript, all significant statements pertaining to the MI experiences of participants were extracted. In the third step, the researchers identified the meanings relevant to MI experiences and formulated the meanings. In the fourth step, the formulated meanings were categorized into clusters of themes. In the fifth step, the categories and themes were integrated into an exhaustive description of the MI experiences. In the sixth step, the fundamental structure was created. The exhaustive description was reviewed by all researchers and converted to short and dense statements. In the seventh step, all researchers reviewed the fundamental structure and checked against the participants' transcripts to validate the findings of the study.

Ethical Approval

The study was approved by the Ethics Committee of the training and research hospital where the research was carried out (approval date and number: 04.06.2015/265). Verbal consents of the participants were taken and written informed consent forms were obtained from all volunteers who agreed to participate in the study. This study complies with the principles of the Declaration of Helsinki.

RESULTS

Two of the patients were female and ten of the patients' relatives were female. The mean age of the patients was 59.30±11.91 years, (min: 44, max: 84); where as, their relatives' mean age was 44.86±12.76 years (min: 21, max: 67). Eighteen of the participants had the first MI attacks, one of the patients had a second, and the remaining one had a third MI attack during the study. Upon the qualitative data analysis, a total of three categories and seven themes were identified (Table 2). Abbreviations in the statements are as follows: P: Patient, R: Relative, F: Female, M: Male, MI: Myocardial infarction.

Table 2. Categories and themes based on the statements given by the participants

Categories	Themes
1. Symptom experiences	a. Symptom diversity b. Lack of knowledge about MI and its symptoms / Lack of associating symptoms with MI c. Coping with symptoms
2. Views about death	a. Anxiety and fear b. Reevaluating life/Pleading to God for surviving
3. Transportation to health care facility	a. Selection of transportation vehicles b. Not calling an ambulance

MI: myocardial infarction

Category 1: Symptom Experiences

Theme A: Symptom diversity

The statements of the participants revealed that they experienced various symptoms including sweating, chest pain, gastrointestinal symptoms, shortness of breath, and yellow and purple skin tone. The range and severity of these symptoms varied from individual to individual. It was observed that sweating was common among patients and 10 patients stated that they had excessive sweating. The participants also described pain in different types and localizations. Almost all of the patients had reported experiencing unbearable pain.

The complaints of shortness of breath/dyspnea and gastrointestinal symptoms accompanying the other symptoms were also expressed by some of the patients. Some statements of patient relatives indicated that the patients had color changes such as yellow, red, and purple in their skin tone.

"I sweated profusely. It was as though raindrops." (P17-M, age 46)

"I broke out in a cold sweat from my body as though raindrops." (P4-M, age 60)

"It was like someone had dumped a bucket of water over him?" (R5-F, age 45)

"I was suffering from pain for 2 hours, but it seemed 10 years... It was not normal pain. It was impossible to describe that pain. It was worse than stab or bullet wound."(P4-M, age 60)

"I had this urge to slice my chest with a knife and remove whatever was inside it." (P7-M, age 48)

"There was a pain in my heart, and then it reached all the way around and into my back. And then my left arm and hand got numb… The pain increased. I'd never felt pain as bad as in my life. The pain was like a bomb (laughing)." (P9-M, age 66)

"My chest pain had throbbed right through my rib cage, and yet it didn't come from one place in particular. It wasn't coming from just my heart, my whole chest was throbbing. I had never experienced anything like that pain, it wasn't like the pain you feel when you cut your hand." (P16-M, age 44)

"He said he had a pain on his chest just like there was someone sitting on him." (R12-F, age 50)

"I woke up at 3:00 in the morning. I felt pressure, as though someone was trying to muffle me up with a heavy sandbag." (P11-M, age 84)

"He complained about his stomach. 'Oh, my stomach! My stomach!'…" (R1-F, age 42)

"He said that his chest was hurting. When he started burping, I immediately suspected that something was wrong with his stomach." (R2-F, age 42)

"I clenched my teeth together. They were making sounds like dı dı dı dı. I wasn't able to breathe." (P14-F, age 75)

"He was struggling to breathe. He was gasping. It was as though he was trying to take a breath but couldn't." (R10-F, age 52)

"He went yellow... His face and nose had turned yellow." (R2-F, age 42)

"She turned as white as a ghost and she was sweating." (R4-F, age 41)

"His skin had turned a yellowish color." (R10-F, age 52)

"His face went blood red and even had momentarily gone purple... On route to the hospital, he had turned completely purple." (R11-M, age 27)

Theme B: Lack of knowledge about MI and its symptoms/ Lack of associating symptoms with MI

It was determined that participants did not know all the symptoms of MI, misinterpreted some of the symptoms, and did not recognize any gastrointestinal symptoms associated with MI in particular. Additionally, some participants were unaware of MI symptoms and could not associate them with cardiac events they experienced. Also, some patients recognized that they had a heart attack but failed to act properly and consciously.

"I had no idea I was having a heart attack. I knew I was having a heart attack when I lost all feeling in my arms and legs." (P4-M, age 60)

"This was my first time, I had no idea… I thought it'd pass. I wasn't overly uncomfortable, but there was shooting pain in my arm. I had no shortness of breath. I was not suffering from palpitations. There was shooting pain in my arm and my chest. Oh, my neck and back were both stiff." (P13-F, age 68)

"His blood pressure was high. We still didn't understand what was going on. He was complaining of back pain, he couldn't breathe, and he said there was something stuck in his throat... I did not suspect that he was having a heart attack because his arm hadn't gotten numb... It wouldn't have dawned on me in a million years that he was suffering a heart attack. I had never witnessed someone having a heart attack before." (R10-F, age 52)

"There was a pain in my chest. I thought I was catching a cold. There was no numbness in my arms. Apparently, your arms and legs don't always get numb when you are having a heart attack. I have just understood this." (P4-M, age 60)

"I had never recognized. I came with the complaint of stomach pain. I'd been taking medicine for 10 days because my stomach was upset... My arm was hurting, I thought my rheumatism was acting up." (P20-M, age 56)

"I had increased cigarette, my chest was feeling tightness. The tightness would then pass, I did not mind, I thought it was due to smoking. Apparently, I was having an embolism." (P6-M, age 52)

"I was very well aware of having a heart attack. I said to myself that whatever will happen will just happen. I sat down and tried to relax. I then felt that I needed to move around, so I got up and washed my car. I then got out onto the road. What I did was insanity; I drove for 60 km..." (P2-M, age 62)

"He didn't want to go to the doctor. He took a sublingual pill and felt relieved. But by evening, his chest began to get tight again. At 2:00 in the night, he told me to take him to the hospital. Unfortunately, we were late." (R3-F, age 43)

Theme C: Coping with symptoms

Based on the individual interviews, most of the participants tried to cope with symptoms of MI on their own via various methods, including taking medication, wandering, coughing, taking a shower, massage, ingesting garlic, and drinking various herbal teas. After they understand that their methods were ineffective, they decided to go to the hospital; however, they lost a considerable amount of valuable time.

"I took a sublingual pill. I felt relieved a bit, but then the attack had started again. So I took a second one but I knew it might knock me out... I had realized that it wasn't something I could solve by myself." (P8-M, age 52)

"I have high blood pressure, I take medication every day. When it isn't effective enough, I find that lemons do the job. So I got up, squeezed a lemon, and drank its juice. I then ingested pomegranate syrup. Morning came around and then we went to the doctor." (P14-F, age 75)

"I felt some relief after I took a shower. I then decided to lay down by thinking that it might work. That had just the opposite effect. Instead, it got worse." (P5-M, age 57)

"I told him to really force himself to cough so that the gas would pass, along with his chest pain. I had him drink nearly every herbal tea like cinnamon tea, chamomile tea, linden, clove, ginger for 15 days until the pain in chest went away. We then decided to go to the hospital once I realized that I couldn't cure it with medicine or herbal tea." (R12-F, age 50)

"I'd heard that if you are having a heart attack, you should cough. I got her to try to cough slightly." (R4-F, age 41)

"I massaged my arm. I then told my relative to come quick and pour hot water down it. I told them that it would pass. I took a painkiller, had them measure my blood pressure, and I swallowed a clove of garlic." (P13-F, age 68)

Category 2: Views of About Death

Theme A: Anxiety and fear

Most of the patients stated to be afraid of dying during the MI attack. The participants experienced anxiety, fear, and panic related to the death, awaited help, and prayed to calm themselves.

"I had lost my mind. I told my spouse and friend to kill me. I then pleaded with God to take my life… I sat down and was in tears. I begged him to forgive me for my sins… At the emergency department, I bellowed at the top of my lungs to kill me and to not leave me in this agony. I feel very lucky. I've suffered three heart attacks and survived. There are those who die after just one heart attack. So, I was racing with time." (P16-M, age 44, 3rd heart attack)

"You feel as though there a tank sitting on you. You can't breathe. Even thinking about it throws you into panic. You have no idea whether or not you're going to die, or what's going to happen?" (P8-M, age 52)

"You're afraid of death. You're petrified that you might leave your loved ones behind." (P1-M, age 44)

"I felt like I was dying." (P6-M, age 52)

"I told the doctors to save my life. I was in a terrible situation. I told to help me, I was dying." (P7-M, age 48)

"I was petrified of course. Now I've undergone my angioplasty, I feel somewhat better... I came straight to the hospital due to my chest pain. If I hadn't, maybe I would have died (laughing)." (P12-M, age 65)

"Right up until we reached the emergency department, he told me he was dying. He was sweating, spasming, in pain, and banging his feet. He was extremely uncomfortable, which in turn made us upset as well. My son nearly got into a car accident." (R1-F, age 42)

"It's impossible not to be afraid. My family is my everything. The last thing I wanted was anything bad to happen to them. I was afraid of that but tried hard not to show it. I kept on praying that this was just some sort of joke. I asked the staff whether or not his blood value might first spike and then drop." (R12-F, age 50)

Theme B: Reevaluating life/Pleading to God for surviving

It was seen that after facing death, both patients and their relatives questioned the meaning of life. They pleaded with God for surviving by saying that they were not ready to die yet without experiencing some important events. They stated that they experienced thoughts about trying to delay death. Children were frequently important in patients' pleading for survival.

"You tell yourself that if I'd rather die, then this agony is over and I die. You are ready to die. My family and kids were the first to enter my mind." (P8-M, age 52)

"As I was experiencing this, my wedding was to be in 10 days... Then when they tell you that you require surgery, shivers run through your spine. I lived this with my father. There is the fear of death. You're afraid of leaving your loved ones behind." (P1-M, age 44)

"You tend to think about the last thing of the life. I thought of my children. I said that I wouldn't grow up them. I wonder where God is going to take me (laughing)?" (P6-M, age 52)

"I was so upset. My spouse is young. I thought my kids, my spouse, his youth, everything (crying)." (R3-F, age 43)

"I went weak at the knees when they told me that his situation was serious. My children were the first to come into my mind." (R15-F, age 59)

"When we arrived at the emergency department, my spouse had a cardiac arrest. I at that point was panicked. It was too early, we both had a 20-year-old son... I prayed hard. I hoped that it wasn't his time yet. I prayed that he'd live at least long enough to see our son's graduation." (R5-F, age 45)

Category 3: Transportation to Health Care Facility

Theme A: Selection of transportation vehicles

The findings amazingly revealed that most of the patients either had someone take them to the health care facility rather than calling an ambulance and two patients drove themselves to the health care facility.

"I say that everything was like a nightmare at that time. I was about to pass out. I came by car, but just barely. I drove myself. I barely remember how I got here." (P19-M, age 57)

"I drove myself here. My strength was done after I came to the hospital." (P8-M, age 52, second heart attack)

Theme B: Not calling an ambulance

Most of the participants did not call an ambulance during MI due to the fact that they could not think at that time logically or they wanted to go to the hospital faster even though this would decrease the damage of myocardial muscle and increase the chance of survival.

"I didn't mind calling an ambulance. I thought that I ought to drive myself, and I'd pull off the road if I got worse on route. I came to the hospital rather

calmly and rubbing my chest. I didn't even inform my family about what was happening. I drove for 60 km." (P2-M, age 62)

"I knew that I was having a heart attack. I had lived through this before, so I know. This one was much more intense. I ended up calling my friend to pick me up and take me to the hospital." (P16-M, age 44, third heart attack)

"I couldn't think rationally because the pain was so bad. When I went out, I went up and asked a driver sitting out front of the school to take me to the hospital, I told him that I was feeling absolutely awful." (P7-M, age 48)

"I checked the web to see what I needed to do. We immediately called his brother and took him straight to the emergency department… We came with his brother. Because he said, 'my brother take me.'…" (R5-F, age 45)

DISCUSSION

MI patients may experience typical or atypical symptoms.[2] Similar to the current study, it has been stated in the literature that pain is the most common symptom of MI patients.[8,14,16] In the current study, it was determined that almost half of the patients had the sweating symptom. Some studies reported that the sweating symptom was frequently seen in MI patients.[13,14] In their study, Song et al. reported that patients expected to sweat at a low rate among MI symptoms; however, sweating was one of the most common symptoms that they experienced.[13] The fact that the individuals could not associate sweating symptom with MI was thought to cause them to arrive late at the hospital. In the current study, the patients stated that they experienced severe gastrointestinal symptoms as much as pain and sweating. Moreover, the shortness of breath was also one of the experienced symptoms. In their study, Khraim et al. determined that approximately one-third of patients had the complaints of nausea and vomiting, and heartburn and approximately half of them experienced the shortness of breath.[25] In the current study, some of the patient relatives stated that they observed a color change in the skin tone of their patients. Based on the findings of the current study, MI patients may have many atypical symptoms as well as typical symptoms. It is important to inform society about this issue to shorten prehospital delay of MI patients.

One of the main categories of this study was that the participants had a lack of knowledge about the symptoms of MI. It has been revealed in the literature that patients with MI have a lack of knowledge about the symptoms, which in turn prolongs prehospital delay.[9,10] In their study, Mooney et al. showed that nurses provided the individualized training to patients with the acute coronary syndrome, thus decreasing their prehospital delay period.[26] Based on this result, it is predicted that education and counseling activities may result in shortening the prehospital delay period. On the other hand, the current study revealed that some patients did not want to seek emergency aid even though they were aware that they were suffering a heart attack. In their study, Albarqouni et al. indicated that although patients had knowledge about calling emergency services during MI, their rate of calling emergency services was low.[9] This result suggests that informing the patients about MI symptoms is essential but not sufficient to shorten prehospital delay and this information should be put into action in case of a condition threatening health.

Similarly to the current study, some studies reported that most patients did not associate their symptoms with MI.[6,25] In the study by Lesneski, almost one-third of patients considered that their symptoms were associated with the heart; whereas, the remaining participants associated the symptoms with other body systems such as indigestion or stomach problems, muscle pain, and breathing problems.[6] Those who assessed their symptoms as cardiac had a shorter period of prehospital delay[12,17,27] and were likely to experience symptom incongruence at a lower rate.[12] Accordingly, it is thought that preparing the training programs aimed at raising awareness about MI especially for those at risk in the society would be beneficial so that patients would be aware of all of the symptoms during MI, the importance of arriving health care facility, and the results of delay.

Patients use various methods to cope with MI symptoms. Some studies reported that the rate of calling the emergency treatment as the first action was low.[9,25] In the studies, it was stated that patients applied various methods instead of calling emergency treatment.[6,25] In the current study, the patients used coping methods such as taking medicine, wandering, coughing, taking a shower, massage, eating garlic, and drinking various herbal teas. Furthermore, the relatives of patients prolonged prehospital delay by misinterpreting the symptoms of their patients and trying to cope with them. It has been reported that the prehospital period prolongs when patients try to heal themselves.[10]

The patients who are aware of how important emergency treatment is[27] and call an ambulance[15] to have a shorter prehospital delay. However, in the current study the majority of the patients arrived at the health care facility by their own means. Despite the fact that some patients were aware that they were suffering from a heart attack, they did not call an ambulance and drove

themselves to the health care facility. In some studies, the majority of patients arrived at the health care facility by self-transport.[10,14] This suggests that individuals were not aware of the importance of calling an ambulance during emergency situations. In their study, Demirkan et al. stated that primary reasons for not calling an ambulance included failing to consider symptoms as cardiac origin or serious and thinking that arriving at the hospital by their own means was faster.[14] In the study of Mooney et al. it was stated that patients did not need to call an ambulance, they thought that the way of non-ambulance transportation is faster and they first followed the recommendations of others.[28] Patient's relatives play an important role as much as patients in calling the emergency service.[17,25] The studies revealed that the patients contacted a family member or a friend instead of calling emergency service.[17,22] In the study of Lim et al., it was found that the rate of calling an ambulance was low and the rate of being taken to the hospital by another person was high.[29] The fact that the relatives of the patients call the emergency health care quickly shortens the prehospital delay period. Khraim et al. revealed that a spouse or another family member was present alongside many of the patients during MI.[25] In their study, Thuresson et al. reported that most of the patients approached somebody after the onset of symptoms, and approximately half of the approached people called an ambulance.[17] Based on these findings, it can be said that patient relatives need to be informed just about seeking emergency treatment and its importance as much as patients.

Limitations

This study has several limitations. Prehospital delay periods were not questioned in this study. Our findings for the prehospital scope are qualitative. To obtain objective data for the prehospital delay in MI patients, quantitative research with a larger sample is recommended. Further studies are needed to investigate interventions for decreasing prehospital delay period and the period of deciding before arriving at the health care facility. Another limitation is that the findings of the study could not be generalized because it was performed in a particular and culturally different region.

CONCLUSION

This study determined qualitatively the prehospital experiences of participants. In accordance with the results of the study, it was found that the participants had a lack of knowledge about MI symptoms and calling an ambulance. This in turn prolonged prehospital delay affecting an effective treatment and chance of survival. It is recommended to educate individuals in society and especially those with coronary artery disease and the risk of disease as well as their relatives about conditions requiring emergency medical intervention and to inform society via mass media. Educational interventions are recommended to focus on various causes of prehospital delay and include subjects such as typical and atypical MI symptoms, symptom mismatch, the significance of the prehospital delay period, what to do during MI, and the advantages of calling an ambulance.

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Conflict of interest

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