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EXPERIENCES OF ACUTE MYOCARDIAL INFARCTION PATIENTS FROM DELAYS IN REFERRING TO HOSPITALS: AN EXPLANATION AND HERMENEUTIC-PHENOMENOLOGICAL STUDY

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ABSTRACT

The related literature has shown that patients affected with acute myocardial infarction experience delays in referring to hospitals. Accordingly, delays in such referrals can lead to postponed diagnosis, treatment, and prevention of the complications of acute myocardial infarction. Thus, the purpose of this study was to explore into experiences of patients with acute myocardial infarction concerning delays in referring to hospitals. A hermeneutics-interpretive phenomenological approach was used in this qualitative study. To this end; 12 participants (8 males and 4 females) were selected, using purposeful sampling method, from intensive care units of Shahid Beheshti Hospital in the city of Qom in Iran. The data were also collected via semi-structured in-depth interviews lasting between 40 and 65 minutes. To analyze the data, the Van Manen's proposed six-step method was employed. The main themes emerged from the data included perceived symptoms, interpretation of symptoms, self-medication, delays in referrals, risk perception, and help-seeking behaviors. Despite the perception of the acute myocardial infarction symptoms; the study participants had interpreted the given signs, practiced self-medication, and experienced delays in referring to medical centers. Therefore, policy-makers in the domain of healthcare system could help in this regard by

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improving public knowledge and awareness of the symptoms of cardiovascular diseases using public media.

INTRODUCTION

Patients affected with acute myocardial infarction (AMI) are in need of immediate and proper treatments in the shortest possible time to restore coronary blood flow and prevent irreversible damage to the heart muscle (1). Coronary reperfusion in the early hours using thrombolytic drugs can have impacts on coronary artery diseases (2). Moreover, rapid disease diagnosis and early onset of treatment can lead to reduced mortality (3), improve heart functions, and enhance patient's prognosis (4). The main factor increasing the effectiveness of these drugs is the decreased interval between the onset of clinical signs and the prescription of the given medications (2, 5). In this respect, the related studies have shown that most patients had referred to medical centers and hospitals with delays following the onset of symptoms of cardiovascular diseases (5, 6). There are not also exact statistics on the delay time of referrals by patients with AMI in Iran. In this regard, Manouchehrifar et al. reported delays in referring by patients equal to 12.9±6.3 hours (7). In addition, Doostkami et al. found the amount of delays in patients' referrals between 4.96 and 6.72 hours (8).

Three phases have been normally considered in terms of delays in referrals by cardiac patients to hospitals in order to receive medical services. The first phase starts from the onset of clinical signs to a patient's help-seeking, the second phase is from help-seeking to a patient's arrival to hospital, and the third phase begins from a patient's arrival to hospital and getting medical services (5, 9).

On the other hand; patients refer to medical centers and hospitals for several reasons such as personal factors, denial of symptoms, hope in recovery, self-medication, consultation with others, social factors (5), cultural factors, age, education, lack of awareness, gender, history of cardiovascular diseases, and decision-making from the onset of the symptoms to help-seeking (6).

The investigations conducted in this domain in Iran using quantitative methods have only cited the extent and the causes of delays in treatments and their onset time (10-14). Moreover, studies have suggested that patients affected with cardiovascular diseases could experience thoughts and feelings such as encounters with death (15), actual and possible cardiac arrest (16), and even death because of the vital importance of the heart (17).

The qualitative studies in Iran have similarly explored the experiences of cardiac patients; however, AMI patients' experiences of delays in referrals to hospitals have not been well explained and there is insufficient knowledge in this respect (16, 18, 19). Therefore, qualitative research studies to explore into the profound experiences of patients with AMI concerning delays in referring to hospitals and medical centers are of utmost importance. Furthermore, explaining AMI patients' experiences of delays in referring to medical centers can lead to acquisition of unique awareness and knowledge in this domain and also generate nursing science in terms of providing education to the public and patients. Recognition of such experiences can also help patients, their families, and healthcare team members to gain necessary knowledge and awareness in this field and assist in reducing delays in patients' referrals through providing the required trainings. Thus, the present study conducted in 2016 aimed at exploring into the experiences revealed by AMI patients concerning delays in referring to hospitals and medical centers.

METHODS

This qualitative study was carried out with a hermeneutic-interpretive phenomenological approach using Van Manen's proposed six-step method (20). It should be noted that interpretive phenomenology is considered as a valuable approach aimed at detecting and interpreting structures and lived experiences of participants (21). Within the interpretative phenomenology, the given phenomenon is analyzed and explored with an interpretive view and then a deep understanding of the lived experiences of participants is gained through this process (22). In this study, the given phenomenon was associated with AMI patients' experiences of delays in referring to hospitals and medical centers. The interpretive phenomenology is also an appropriate approach to enter into the world of people and discover their lived experiences in order to understand the experiences of patients with AMI concerning delays in referring to hospitals and medical centers. Moreover, Van Manen's proposed six-step activities were employed as the practical guide of the present study (23).

Step One: According to Van Manen, the first step in exploring a phenomenon is a researcher's interest

in the nature of that phenomenon. In this respect, the researchers' interest in the phenomenon of AMI patients' experiences of delays in referring to hospitals was attracted from the time when they were working clinically as nurses in the emergency departments of hospitals in the city of Tehran in Iran.

Step Two: The study participants were selected purposefully out of the patients referred to Shahid Beheshti Hospital in the city of Qom. The study participants included 12 patients (8 males and 4 females). The first criterion for the selection of participants was infliction with AMI for the first time with three days of admission into hospital to gain stable physical and mental conditions. The individuals with psychological-mental health problems as well as those with severe physical illnesses were excluded in the present study. Semi-structured in-depth interviews in face-to-face and individual formats were also employed. The interviews lasted between 40 and 65 minutes. The interviews also started with a general question about the physical symptoms of cardiovascular diseases. The researcher similarly allowed the participants to express their real experiences through their silence. In cases where there was a need to have further understanding and explanation, the researchers used exploratory questions such as "Can you further explain this issue?" and "What did you mean by that?". The interviews also continued until data saturation and they ended as new data was not obtained.

Step Three: This step was associated with contemplation and thinking on inherent themes describing the given phenomenon. Using thematic analysis, the researcher determined the main themes of the phenomenon of experiences of patients with AMI concerning delays in referring to hospitals. In this respect, Van Manen has proposed three approaches including holistic approach, selective approach, and detailed approach to conduct a thematic analysis. The researcher in this study made use of holistic and selective approaches. Within the holistic approach, the researcher tries to gain a general impression of the interviews; and in the selective approach, the researcher reads the transcribed interviews over and over. Subsequently, the statements and phrases describing the given phenomenon are extracted. In the process of data analysis in this study, the researchers read the transcripts carefully several times following the conversion of audio files into text format ones; then, they gained a general impression of the participants' experiences using the holistic approach and finally wrote them in several paragraphs. Next, the same transcripts were reread several times carefully using the selective approach. After that, the statements and phrases describing the experiences of patients with AMI concerning delays in referring to hospital were selected and extracted as semantic units. The given semantic units extracted from each interview were written in separate paper sheets. Finally, the semantic units were placed into a separate category based on their semantic similarities in order to obtain more general and more abstract statements.

Step Four: According to Van Manen, the fourth step is the art of writing and rewriting. The purpose of the given step was to gain a strong description of the phenomenon of AMI patients' experiences of delays in referrals to hospital.

Step Five: It refers to maintaining a strong and directional relationship with the desired phenomenon. In this step, the researchers reconsidered the main research question in order not to get far from the purpose of the study and to maintain a strong and directional relationship with the given phenomenon.

Step Six: It is about making a balance in the research context through making a connection between the part and the whole. Using the holistic approach and the selective approach as well as considering the main research question, this step included a constant review of the part and the whole. To ensure the validity of the present study, an effective relationship was established with the study participants based on trust. The transcripts of the interviews were also given to the study participants after their analysis. Furthermore, the study procedure was examined in collaboration with the research team and several supervisors in a step-by-step form and their comments and revisions were included.

Ethical Considerations

This article was the result of a research project approved by Qom University of Medical Sciences with the Ethics Committee Code of MUQ.REC.1393.96. As the researchers introduced themselves to Shahid Beheshti Hospital in the city of Qom, they received the permit from the relevant authorities to conduct the present study. Then, the researchers selected the participants and obtained oral and written informed consents from them. The researchers also committed to keep personal information, interviews, and participant's anonymity confidential.

RESULTS

The findings of this study included the experiences of 12 participants (8 men and 4 women)

aged 48-71 years. The main themes of this study were perceived symptoms, interpretation of symptoms, self-medication, delays in referrals, risk perception, as well as help-seeking behaviors (Table 1).

Table 1. Main themes emerged from the data

Theme	Sub-theme
Perceived symptoms	- sudden feeling of heartburns - feeling of heaviness in the chest - sudden chest pains
Interpretation of symptoms	- feeling of an unusual event - assumption of stomach problems - assumption of lung problems - feeling of faintness and lethargy
Self-medication	- drug consumption for stomach problems - licorice consumption - candy consumption - chest massages
Delays in referrals	- assuming that a problem is not serious and delaying the referrals to the next time - enduring the problem in the hope of recovery - ignoring the problem and self-engagement
Risk perception	- progress in signs and deterioration of physical conditions - feeling of choking and diffused pain - prolonged pain and lack of recovery - feeling of death
Help-seeking behaviors	- deterioration of physical conditions and informing the spouse - having severe pain and feeling of death and then asking for help - having no ability to move and asking for help

Perceived Symptoms

The study participants had experienced unusual signs and symptoms associated with heart problems including feeling of heaviness, chest pains, shortness of breath, feeling of choking, cold sweats, as well as faintness and lethargy. Thus, the perception of such symptoms was considered by such participants as early prognosis and abnormal signs.

In this regard, a male participant aged 51 years stated that:

*"We were eating lunch when I suddenly felt heartburns, I also had a feeling of heaviness, and it was a strange one I was experiencing for the first time."(*Participant 1)

Another 67-year-old woman as a study participant said that:

"I suddenly sweated, my eyesight became blurred, and it was unusual for me, I told my children that something is going to happen." (Participant 6)

Interpretation of Symptoms

The study participants interpreted their abnormal physical signs and symptoms experienced for the first time. They assumed that they were suffering from discomforts such as gastrointestinal and lung problems. However, their interpretations were based on the experiences resulted from their prior problems.

In this regard, a female participant aged 59 years reiterated that:

"When I had pain, I thought that I had a stomachache again." (Participant 3)

Moreover, a 60-year-old man as a study participant added that:

"As I found that I was suffering from shortness of breath, I told my children that I had apparently a heart problem" (Participant 4)

In this case, a 72-year-old male participant said that:

"I have lung problems, so I thought that my chest pain was due to my lungs, I did not think that the problem was with my heart" (Participant 9)

Self-Medication

Self-medication was one of the other experiences spelled out by the study participants. Given their prior experiences and sometimes following some advice given by their family members, these participants had taken medications available.

In this regard, a 71-year-old man stated that:

"I took gastric syrup when I felt pain, but I did not get well, I also had a little licorice so I had it to become better, I waited for a long time but my pain was severe and I had to go to the doctor." (Participant 2)

Furthermore, a man aged 61 years added that:

"It was the first time I was experiencing a sharp pain, I sweated and I thought that I had a cold, so I ate some candies." (Participant 11).

A 49-year-old female participant also stated that:

"After I had a feeling of heaviness, I took gastric syrup." (Participant 7)

Another female participant aged 61 years reiterated that:

"I felt that something heavy was on my heart, I tried to stand up, and then I walked a few steps, while one of my hands was on my heart, I was also massaging my stomach so that it might get better with my burps." (Participant 8)

Delays in Referrals

Delays in referrals and their intentional postponement were among the participants' experiences in this study. Despite having physical discomforts in their chests, such participants had delayed their referrals to hospital and medical centers.

Considering delays in referring to hospital, a male participant aged 58 years said that:

"I thought that was nothing, I just had a feeling of heaviness and I even talked to my wife and my children, they told me to go to the doctor but I said that I will do it tomorrow because it was late in the evening." (Participant 9)

Another participant, a man aged 61 years also added that:

"I felt a little uncomfortable, I went to the field and I suffered from heartburns, I didn't mind it, as I returned home late in the evening, my wife said that you look pale and she also asked about my restlessness, I said no matter and I went to bed, I suffered from shortness of breath at night and endured it until the morning; finally, I fainted and I was taken to hospital." (Participant 5)

Risk Perception

Risk perception and the sense of physical deterioration as well as the exacerbation of clinical symptoms such as pains, shortness of breath, and a feeling of choking were among the experiences revealed by the participants in the present study.

Considering risk perception, a 51-year-old participant stated that:

"I had a mild discomfort from the morning, I told myself that it will get better late in the evening, I found that it was apparently getting worse so I referred to the clinic with my son." (Participant 1)

As well, a female participant aged 63 years added that:

"I felt strangled, when I felt the pain in my hand, I told my husband to take me to doctor's office." (Participant 10)

A 61-year-old male participant also said that:

"My pain resisted, my condition got worse moment by moment, I felt I was dying, so I promptly called my daughter." (Participant 11)

Help-Seeking Behaviors

One of the experiences revealed by the participants in the present study was seeking help from family members and those around them. Given the pain severity and the onset of clinical signs, some participants had immediately experienced help-seeking.

In this respect, a 61-year-old male participant stated that:

"I found that I had no alternatives, not only the symptoms did not get well, but also they got worse, I told my wife to phone our son to take me to a doctor's office." (Participant 11)

A male participant aged 70 years similarly added that:

"The pain was torturing me; I found that I was dying. I could not even move a muscle, so I asked my brother to help me and he called the emergency department." (Participant 12)

DISCUSSION

The present study was conducted to search, identify, and interpret the experiences of patients with AMI concerning delays in referring to hospitals and medical centers. Such experiences were reflected in several themes including perceived symptoms, interpretation of symptoms, self-medication, and delays in referrals, risk perception, and help-seeking behaviors. The given themes actually emerged in response to the question of "What are the lived experiences of patients with AMI in terms of delays in referring to hospitals?".

All the participants of this study did not consider themselves exposed to the risks of the disease and infliction with AMI. Thus, they assumed chest pains and other accompanied symptoms as non-cardiac ones and tried to justify, neglect, and defer them. The denial of the clinical symptoms of the disease was also a common mechanism adopted by patients for numerous reasons such as avoiding disturbance and concerns in family as well as reducing their own fear and anxiety and those of their family.

In this respect, some studies mentioned justification and neglect of the symptoms of cardiovascular diseases (5, 24, 25). According to lots of the related investigations, the causes of delays in referring to hospital were cited as neglect, disregard, and inattention to clinical symptoms of the cardiovascular diseases (6, 13, 26). For example; in a study, lack of knowledge concerning clinical signs and neglect of its importance were among the most common causes of delays in referring to medical centers (27). In this regard, Taghaddosi et al. reported the reason for such delays in 56.2% of the patients as giving no importance to the pains and such findings were more common in men than in women (6).

Due to decreased blood flow to the heart muscle, the patients also experience the exacerbation of cardiac symptoms such as chest pains and shortness of breath over time (5). In the present study, the given patients also experienced exacerbated physical symptoms associated with AMI with the passage of time as well as delays in referrals and onset of treatments. Moreover, chest pain is the most common complaints of patients after the onset of AMI (28).

The results of the related literature similarly showed that patients with coronary artery diseases considered the heart as a vital organ and the king of the body (16, 24). In this respect, Moemannasab et al. argued that the accuracy of heart functions according to the attitudes of patients with cardiovascular diseases was the boundary between life and death (16). Accordingly, patients considered any discomfort and heart problems serious and took a cardiac event as a life-threatening one (16, 29).

One of the other experiences by participants in the present study was the interpretation of the disease symptoms. Based on their prior experiences, the participants assumed that they were affected with gastrointestinal or lung problems. This assumption and interpretation could delay referrals and also lead to exacerbated physical conditions. Besides, they pacified themselves through the interpretation of the symptoms. As well, they pretended that the symptoms were non-cardiac and they were associated with stomachache and gastrointestinal pains which could result in delays in referrals to medical centers. Given the dominant culture in drug consumption and self-medication, the given patients started self-medication following denial and interpretation of the disease symptoms. All the participants in the present study had used pharmaceutical and herbal drugs to relieve the symptoms of the disease. They had also selected the type of the medication according to the perception of the disease symptoms and their interpretation. More importantly was the fact that the use of herbal medicines is of priority in the Iranian care-giving and traditional context because of specific beliefs among Iranian patients in the effects of these drugs which would lead to increased delays in referrals to physicians by patients to treat their health problems (30).

After taking the drugs, such patients also waited for the improvement of the symptoms and the disappearance of the problem. In this respect, waiting for recovery and removal of the problem could also lead to loss of time. In one study, 50% of the causes for delays by patients were associated with waiting for spontaneous recovery of cardiac pains (6).

In many cases, the patients also deliberately delayed in referring to hospitals given the time and the

location of the onset of the symptoms. Moreover, the onset of pains during night in a study was considered as the reason for a long delay by 52.4% of patients (6). Delayed referrals had similarly led to exacerbated physical conditions and a feeling of life-threatening in patients. Moreover, 61% of patients in another investigation reported delayed decision-making for referrals and endurance of pain in the hope of recovery as the main causes of delays in the onset of treatments (26).

All the participants of this study had also experienced help-seeking from those around them. In this respect, the results of the related studies revealed that the main reason for the delays in asking for help by patients was associated with their prolonged decision-making process to go to medical centers (16, 31). In the present study; exacerbation of physical conditions, severe pains, and feeling of death had caused participants to ask for help.

CONCLUSION

The findings of the present study showed that participants affected with AMI and referred to medical centers with delay had experiences of perceived symptoms. They had also added to their delay time through the interpretation of the disease symptoms. Besides, the participants had begun to self-medicate through taking drugs available. Despite the perception of the symptoms and no impacts by the given drugs, such participants had experienced delays in referring to hospital and they had considered another time for such visits. Finally, they had sought for help following the perception of risks and feeling of threats.

The participants in this study had also referred to hospitals and medical centers with delay. It should be noted that delays in AMI patients' referrals and onset of treatments could be accompanied by adverse consequences for patients. Thus, policy-makers in the domain of the health system could help such patients by improving public knowledge and awareness concerning cardiovascular diseases through public media. Considering the nature of the qualitative studies; small sample size and lack of generalizability of the results were among the limitations of this study. Thus, it was suggested to conduct further studies to determine factors affecting delays in referrals by patients suffering from cardiovascular diseases.

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