

Water on Fire: The Patients' Lived Experience of Primary Percutaneous Coronary Intervention

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Abstract

Background: The success of a coronary angioplasty in the treatment of myocardial infarction is affected by patients' experiences. However, the experiences of the people with an emergency angioplasty have remained unknown. **Objective:** This study was conducted to explore the patients' experiences of an emergency angioplasty. **Method:** This study was performed using the qualitative research method and interpretive phenomenological approach. Nine patients under emergency angioplasty were selected using purposeful sampling. A total of 11 deep and semistructured interviews were performed with the patients. The data were analyzed using van Manen method. **Results:** Five subthemes of "diagnosis shock," "being in an emergency situation," "trying to self-control," "the need for reassuring care," and "stability" formed the structure of the patients' experiences under the main theme of "water on fire". Water on fire was the participants' main perception of the emergency angioplasty. Patient-centered interactions and meeting the care, supportive, and educational needs of the patients in the case of diagnosis shock lead to a pleasant experience of returning to life. **Conclusion:** The findings of this study may have implications for care of patients undergoing emergency cardiovascular interventions.

Keywords

angioplasty, coronary artery disease, qualitative research, nursing

Introduction

Cardiovascular disorders (CADs) are among the most prevalent diseases in human societies and are the main cause of mortality worldwide. In spite of the advances in diagnostic and therapeutic methods, CAD trend is ascending and it is forecasted to be the first cause of death and disability in the world by 2020. Annually, about 50% of deaths in Iran are related to CAD, including myocardial infarction (MI) (1). This is very high compared to Europe with 19% (2).

Appropriate and timely treatment of acute MI is of significant importance in reducing mortality. It is vital to perform reperfusion immediately after the onset of the symptoms to save the patient. The management of MI focuses on the reestablishment of myocardial blood flow in order to prevent permanent damage; therefore, prompt and immediate perfusion is associated with favorable outcomes (3). The most effective treatment of MI is primary percutaneous coronary intervention (PPCI). The PPCI results in a reduction of reinfarction rate, shorter hospitalization, and mortality. Nevertheless, the progress and high success rate of the treatment is influenced by many factors such as age,

renal function, left ventricular function, and anatomical complexity of coronary artery disease (4–7).

Patients' experiences play a significant role in the successful outcomes of angioplasty (8). In addition to raising physical problems, diagnosis of acute MI leads to a significant disorder in the patients' psychological condition including anxiety, depression, and uncertainty about the future. In addition, as an invasive procedure, angioplasty causes stress and anxiety in patients (9,10). In emergency angioplasty

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Table 1. Participant's Profile (Demographic Features).

Job	Marital Status	Education	Residential Type	Age	Gender	Participant
Employee	Married	Diploma	Urban	40	Male	1
Stockman	Married	Illiterate	Rural	61	Male	2
University professor	Married	PhD	Urban	50	Male	3
Self-employed	Married	Diploma	Urban	54	Male	4
Self-employed	Married	Diploma	Urban	53	Male	5
Worker	Married	Fifth degree of elementary school	Urban	47	Female	6
Employee	Single	MA	Urban	46	Female	7
Retired	Married	Diploma	Urban	48	Male	8
Housewife	Widow	Illiterate	Rural	64	Female	9

conditions, anxiety can be a barrier to the patient's correct decision-making for interventions (11), and health-care team may face challenges in management and decision-making. On the other hand, patients may require reangioplasty after several years. The previous experiences may affect their degree of reacceptance of angioplasty (8).

We need to explore life experiences of the patients undergoing emergency angioplasty in order to recognize the emotional psychological reactions, prevention, and resolution of care challenges. The experience of patients undergoing emergency angioplasty has not yet been completely understood. The studies have been limited to exploring life experiences after angioplasty (8,12), and no studies have delved into patients' experiences of emergency angioplasty in Iran. The acquisition of life experiences for these patients is possible through a qualitative research approach. Phenomenology is a good method to discover the meaning of a phenomenon and to obtain a deep understanding of the lived experiences (13). Therefore, this qualitative study was performed using a phenomenological method aimed at discovering the patients' experiences from an emergency angioplasty.

Method

This study was carried out using a qualitative research method technique called interpretive phenomenological approach (hermeneutics). The goal of this approach is to recognize the concept of human experience. The phenomenologist researcher is an active participant in the interpretation process, who extracts information through analysis of descriptions reflecting the experiences of individuals from the interest phenomenon (14).

This study was carried out between May 2017 and July 2018. Nine participants were purposefully selected from patients undergoing emergency angioplasty in Dr Heshmat Heart Center of Rasht in Iran (Table 1). The inclusion criteria were age of 18 years or older, the ability to understand and speak Persian, lack of prior history of angioplasty, willingness to participate in the study, and having the cognitive health of higher than 7 in Abbreviated Mental Test (if age >60 years). Participants' demographic information was completed through self-reporting.

The research was performed based on the 6 steps proposed by van Manen. The first step is accomplished by the patient's thinking about life from the onset of the symptoms to the end of the emergency angioplasty and asking question about the patients' experiences during the procedure. The researcher looked at the patients from emergency department to the angiography unit. The second step was to focus on the culture and attitudes of people to health and disease as well as long-term involvement with patients by performing deep interviews in order to investigate experiences as the individuals live them. The third step included reflecting on the essential themes through listening to recorded sounds, reading texts, immersing in data, conducting thematic analysis of the data, and identifying the essential themes. In the fourth step, a deep phenomenological text was written in a hermeneutic interpretation design. In the fifth step, while keeping a strong relationship with the emergency angioplasty phenomenon, the themes obtained from the participants' experiences were discussed and investigated from viewpoint of caregiving. The final step consisted of the researcher's moves between the rewritten texts and themes concerning the living experience during emergency angioplasty to balance the research field through considering the components and the whole (15).

To establish trust between the participants and the researcher, after entering Cardiac Care Unit (CCU) the participants first attended an initial session. The purpose of this study was explained and then the informed consent was obtained. The place and time of the interview were specified by the agreement of the participants on the day of discharge or 10 days after it (on follow-up visit and in a quiet room in the hospital) because of the termination of the acute phase, and clearer remaindering of the experiences (16).

The data were collected by semistructured and deep interviews. The focus was on the experiences of the participants and directing the dialogue; thus, no preprepared questions were used. All interviews began with the question "Please tell me your experience of emergency angioplasty," "What did it look like?" During the interview, the participant contributed to clarifying his/her experiences and was encouraged to do so using questions such as "What do you mean?" and "How did you feel?" In order to understand the conditions fully, the interviewer tried to obtain information

about the lived environment, time, body, and communications. In total, 11 interviews were performed. Two of the participants were interviewed 2 times. The duration of interviews varied from 20 to 75 minutes. The data collection and analysis were performed simultaneously. The sampling was continued until data saturation. After 9 interviews, no new code or concept was obtained; however, 2 others were interviewed to ensure the completeness of the interviews.

Participants' quotations were translated into English by 2 translators. One of the translators was familiar with qualitative concepts independently. Then, retranslation from English to Persian was carried out by a bilingual translator. It was compared with the original quotations of the participants and members of the expert panel reached to consensus over the accuracy of the translations.

To analyze the data, the meaning units in the interviews were extracted using the strategy. The thematic analysis method was employed for the complete emergence of the contents contained in the data. After listening to and transcribing the audio files of each of the interviews, the data analysis was performed using the detailed, selective, and holistic analysis approach (15). The researcher read the text of each interview several times to obtain a comprehensive understanding of the experiences. Words, expressions, and sentences were extracted according to the aim of the study. In the holistic approach, the texts of the interviews were read several times, and after full comprehension of the text, the expression (phrase) or sentence representing the intended text was written. We tried to ultimately answer what the whole text says. In the selective and detailed approach, the contents of the angioplasty experience were extracted from the words, phrases, and semantic sentences of the texts received from the participants. First, each interview was carefully read word-by-word. The word, phrase, or sentence seeming to relate to the participants' experiences was written in a column in a sheet. Then, given the semantic and conceptual similarity, the phrases were placed in separate categories and a concept was given to each of them. All interviews were recorded in separate sheets, and the words and phrases were categorized into semantic and conceptual categories. When all interviews were carefully read and similar phrases were extracted, they were again placed in categories with a wider view. An expert panel was held for confirming the validity of the coding into themes. The panel consisted of 4 experts in phenomenology and a fellowship in cardiology. The panel members were in agreement regarding the choice of words for codes, categories, and main theme and reached to consensus.

The strategies used to obtain rigor included prolonged engagement, providing postanalysis information of interviews to the participants and receiving their feedback in the analysis process, confirming the extracted themes by participants, using experts' opinions and applying the suggestions to the taken actions to ensure the accuracy and correctness of the study process.

Table 2. The Structure of Emerged Themes from the Data.

Main Theme	Theme	Subtheme
Water on fire	Diagnosis shock	Feeling uncertainty
		Feeling close to death
	Need for reassuring care	Psychological complications experience
		Physical complications experience
		Need for safe physical environment
Being in an emergency situation	Need for effective verbal communication	
	Need to be informed about the status	
	Need for psychological support	
	Need for spiritual support	
Trying to self-control	Immediate diagnostic measures	
	Accelerating the intervention time	
	Need for quick decision-making	
Stability	Thinking positive	
	Distraction of thought	
	Resorting to spirituality	
	Accepting reality	
		Getting rid of pain
		Returning to life

The ethics committee of Guilan University of Medical Sciences approved this study (IR.GUMS.REC.1396.21). The participants were informed about the goals of the study and written consent was obtained. They were assured that all their information will be kept confidential and anonymity.

Results

Water on Fire

The main theme of “water on fire” was identified from the participants' lived experience of the emergency angioplasty:

I was burning. I heard that doctor said to one: “Balloon.” Then I felt comfortable. It was as if the water had been poured on fire.

The subthemes of “diagnosis shock,” “being in an emergency situation,” “trying to self-control,” “the need for reassuring care,” and “stability” formed the structure of this experience (Table 2).

Diagnosis Shock

The participants referred to the hospital with levels of physical symptoms such as chest compression and pain, shortness of breath, sweating, nausea, and vomiting. After confirmation of the need for emergency intervention, they

experienced some degree of emotional complications, concern, fear, anxiety, stress, feeling close to death, and uncertainty feeling:

It was like as if I had given bad news; I got a shocking state, because I felt how I had become a heart failure patient. It was difficult for me to accept. (Participant 3)

Surgery history in the participants or experience of angioplasty in their relatives and personality traits of participants contributed to degree of diagnosis shock. Those had positive history and or had a strong and spiritual personality experienced fewer psychological symptoms.

Being in an Emergency Situation

The participants experienced an emergency position immediately after being a candidate for emergency angioplasty. Intervention preparations such as blood tests, prescribing medications, urgency to make decisions about intervention with doctor's explanations, obtaining informed consent, immediate formation of angioplasty record, and rapid transfer to angiographic unit were included in their experience of being in an emergency:

I felt the case was too acute, my condition was urgent, and everything was done quickly. Doctor said, "We have to immediately perform angiography to open your veins." (Participant 5)

The doctor needed my quick response. My situation was critical and I must make a quick decision. (Participant 3)

Even those suffered from some degree of consciousness reduction due to severe pain and narcotic use felt this emergency by hearing the noise of surrounding people as well as rapid spatial changes. Some of them did not realize the time due to receiving opioid drugs and said they were immediately undergone angioplasty. In fact, all participants somehow witnessed immediate interventions that indicated both of their acute and critical situations.

Trying to Self-Control

The acute status experienced by the participants forced them to try to control themselves and the developed crisis. The experience of "diagnosis shock" and "being in an emergency situation" led them to use spiritual strategies, resorting (to God), distorting thoughts, and positive thinking to internally control their experienced emotional complications in order to adapt to the emerged crisis:

I did not say that this (angioplasty) now kills me; but I said they are trying to save me. (Participant 8)

When going to the angiography room, I remembered the Prophet's Family and the problems they suffered. I compared to their difficulties, I try to think positively. (Participant 3)

Faith has made me feel relaxed... this (death) is a fact. I know, I will go someday, eventually; then I will make friend with it. (Participant 1)

The Need for Reassuring Care

The diagnosis shock experience required being supported physically, mentally, and spiritually, as well as effective verbal communication and awareness of the situation. The needs extracted from participants' experiences indicated that they needed a reassuring care when facing a diagnosis shock:

The room was cold. No one asked me if it was cold or not. (Participant 6)

There was the noise of apparatuses... I tried not to pay attention to it, it made me worried. (Participant 2)

I was concerned about what I saw on monitor. I just closed my eyes in order not to think about it. (Participant 5)

It was interesting as I looked at monitor, I was seeing inside me; the doctor explained to me what he was doing, and this made me feel relaxed. (Participant 8)

Stability

Generally, participants had a good feeling toward intervention. By performing emergency angioplasty, they felt relaxed, relief of pain, return to life, and stability:

Doctor and nurses were talking together. They said, "Fill the balloon" 2 times, I got better immediately. (Participant 1)

My chest was very hot, when they did their work, my heart opened. (Participant 4)

I felt relaxed when undergoing angioplasty. I was comfortable, my pain escaped. (Participant 2)

In fact, the immediate attempts of the treatment team, along with the provision of care needs, helped them enjoy the favorable experience of emergency angioplasty and in other words, favorably return to life. The need of people who were successful in trying to perform self-control for reassuring care had been provided, they felt comfortable and got rid of pain, felt the emergence of a miracle in life.

An interesting finding of this study was that the participants described the emergency angioplasty much easier than they had previously imagined:

It looked like dentistry. As if a pain in your teeth, you go to dental clinic and the dentist would help your pain relieve; angioplasty caused my pain to fade away. (Participant 8)

The doctor's explanations about the situation and obtaining informed consent without applying stress to the patients also played an effective role in facilitating the procedure and, naturally, favorable experience of the patients.

Discussion

“Water on fire” was the meaning of the emergency angioplasty for participants. They likened emergency angioplasty as the water that turns off the fire caused by the critical situation. The patients face with diagnosis which puts them in an emergency condition. They try to perform self-control in response to the situation. In this process ending to stability, there is a need for reassuring care.

The patients experienced signs and symptoms of the heart disease and were candidate for emergency angioplasty faced with “diagnostic shock.” The results of the studies consistent with our findings indicate that cardiac patients experience the fear of death, sense of lack of control, disbelief, shock and despair at the initial stages of diagnosis, and treatment due to sudden disease, pain, risk of death, and invasive emergency treatment (9,17). The disease is a loss. According to Sander’s Stages of Grieving, shock is the first stage of a reaction to a loss, in which the people are left with feelings of confusion, unreality, and disbelief that the loss has occurred. They are often unable to process normal thought sequences (18). Thus, it is recommended that the patient be assisted in making the right decision about his or her treatment options through communication and be encouraging to express his/her feelings and concerns.

The patients experienced a critical condition. Nevertheless, they found it as the timely reaction by health-care team. The event’s speed, admission, and emergency treatment were the structure of the participants’ experience of emergency angioplasty in a study (16). It seems that emergency of intervention leads to more stress and tension in the patient. However, the patient is reassured about treatment by seeing the efforts of health-care team.

Trying to perform self-control was a reaction the participants had to the situation. This finding is in line with the study of Törnqvist et al. (19). Self-control is an intellectual response considered as a cognitive index of stress. Given the sense of controlling the situation, it is useful for empowering the individual; however, it can prevent receiving support from the others and hide supportive needs of patient (18).

The need for reassuring care was an important issue extracted from the participants’ experiences. Participants in the study of Aazami et al. also stated the need for the procedure’s knowledge and social support during angioplasty (20). In emergency procedures and life-threatening conditions, the needs for care are more significant. Emergency patients are eager to have information about their situation, while nonemergency patients become anxious when providing the procedure information (21). As stated by the participants, reassuring care for patients requires proper interaction with the patient.

Participants experienced “stability” after the angioplasty. However, they were not absolutely sure about the outcome of the intervention. All experienced comfort and pain relief. Consistent with this study, there is a level of mismatch between the expectations and the reality of angioplasty and

the suspicion observed in the intervention results in the patients undergoing angioplasty (16,20). Cardiovascular disorder is a chronic disease. According to the linear trajectory model, at the stage of stability, the disease and symptoms are controllable and daily activities continue under the disease’s constraints. In order to prevent progression of the disease, positive behavior in the patients should be promoted and the patients’ conditions should be monitored continuously (22).

This phenomenological study presents hermeneutic interpretations of experiences of only 9 patients who underwent emergency angioplasty in a public hospital. The findings may not be generalizable to other settings and contexts. Therefore, future research studies in different settings and contexts are recommended.

Conclusion

In this study, the participants had positive and negative experiences during emergency angioplasty. They experienced return to life with pleasure by meeting the care and support needs and training how to use self-control strategies and patient-based conversations during rapid crisis management. In addition to making a significant contribution to the existing literature, findings of the study may have implications for developing a comprehensive care plan for patients undergoing emergency cardiovascular interventions.

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