In the shadow of perceived threat: The live experience of Iranian patients candidate for undergoing coronary angiography

Farkhondeh Sharif, PhD, Majid Najafi Kalyani, PhD, Fazlollah Ahmadi, PhD, and Mohammad Taghi Iman, PhD

Coronary angiography (CAG) is a stressful event for many patients. This article aimed to explore the Iranian patients' experiences of undergoing CAG. In this qualitative study that is a substudy of a larger study, 15 patients (seven men and eight women) with a mean age of 49.8±11.6 years were recruited from three hospitals in Shiraz, southwest Iran. Data were collected using semistructured, face-to-face interview before undergoing CAG. Interviews were audiotaped and transcribed. Data were analyzed using qualitative content analysis. Perceived threat of patients included two themes: being under pressure and anxiety. Patients undergoing CAG experience psychological problems that can threaten them in catheterization laboratory. Health professionals are required to help and prepare this patient for an invasive CAG. To minimize the psychological problems of patients undergoing CAG, nurses and physicians should perform some supportive interventions in their care plan. (J Vasc Nurs 2018;36:140-144)

INTRODUCTION

Coronary artery disease (CAD) is one of the most common causes of mortality and morbidity around the world.1,2 CAD is the main public health problem in Iran and needs to be considered.1,3 With the increase in the rate of CAD, diagnostic tools have been developed for identifying this problem.3,4 Among these tools, coronary angiography (CAG) is the most used diagnostic test worldwide.3,4 CAG can be a stressful event because of its nature for many patients.3,5,8 Psychological problems of patients undergoing this procedure can affect the patient’s cardiovascular and hemodynamic system.5,8,9 Psychological problems present a greater risk for patients undergoing CAG and may cause life-threatening events for patients.5,6

A review of the literature showed that a thorough study of the patient’s experiences related to psychological problems of CAG had not been conducted yet in our country. Because psychological problems arise from the patient’s cultural and social background, we decided to explore the experiences of Iranian patients related to CAG.

Exploring the experiences of the patients undergoing this procedure related to psychological problems can help health professionals to manage these conditions and present a better care program. The present study aimed to describe the psychological problems through experiences of patients undergoing CAG.

METHODS

This study was a part of a larger grounded theory study which aimed to describe patients’ experiences of undergoing CAG. A qualitative study, using semistructured, face-to-face interviews and content analysis, was performed.10

Sampling

The patients participating in this study were recruited from three hospitals affiliated to Shiraz University of Medical Sciences, Shiraz, southwestern Iran. We selected the patients using purposive sampling for qualitative studies according to maximum-variation approach from a wide age range (25–75 years), different genders, different cultures, and socioeconomic status. All candidates for CAG at first time were eligible for participation. In total, 15 participants (seven men and eight women) were recruited for this study.

Data collection

Data were collected by the corresponding author. Semistructured, face-to-face interviews were conducted for collecting data.
The interviews were conducted during 2011–2014, one day before CAG. The interviews lasted for 50 minutes (30–90 minutes).

**Data analysis**

Analysis of data was performed simultaneously with data collection. All interviews were audio-recorded with the patients’ permission and transcribed verbatim. The sampling of patients continued until the researcher reached saturation. Each transcribed interview was read sentence by sentence, and the text was broken up into units of meaning; then, the phrases with the same meaning and content were labeled and categorized together. This was refined, and analysis continued until a coding framework was developed. In the next step, based on similarity and content, subcategories were integrated to main categories.10

**Trustworthiness of data**

For analyzing trustworthiness of data, several parameters (credibility, dependability, and transferability) were addressed.11,12 After coding of data by the researcher, member checking was done by some patients to compare the findings with their experiences related to CAG. Four experts in qualitative research (a supervisor and two advisors as well as an external checker) read and confirmed the accuracy of the analysis. Furthermore, field notes were taken by the researcher to reach a deep understanding of the patient’s experiences.

**Ethical considerations**

The regional ethics committee of Shiraz University of Medical Sciences approved this study in 2011 (EC-1390-5806). Before data collection, the aim of the study was explained to the patients, and their written informed consent was obtained.

**RESULTS**

This study investigated the experiences of 15 (seven men and eight women) patients with a mean age of 49.8 ± 11.6 years, who were the candidates for undergoing CAG. The characteristics of patients are given in Table 1. Patients described CAG as a threatening phenomenon for themselves and even for their families and believed that it would cause problems for them. The perceived threat was the main theme of this study, which includes the two classes of being under pressure and anxiety.

**Being under pressure**

This class is composed of two primary classes of fear and stress. The majority of patients participating in this study were frightened after finding out that they needed to undergo angiography. Patients mentioned the technique and the method of performing angiography as a cause of their fear. In this respect, one of the male patients said,

“… but well, then when they said you have to undergo angiography, I got scared … they said! … I don’t know, they put a rod which is like a wire and insert it so that it goes into your heart … That was why I got so frightened; I said, like, what?! What do they do? …”

Patients participating in this study mentioned the fear of death and dying during angiography as one of the main reasons for their concerns. In this regard, one of the participants said,

“… since 10 am that they told me, I had so much fear. Because I was afraid I would die when they wanted to perform angiography on me … I thought that I might die under angiography…”

The fear of possible complications during CAG was another source of fear among patients, which made them concerned and anxious. The patients had this fear up until the very end of the angiography.

“… I was afraid that when I get an angiography, either my blood pressure might go up or I might experience some problems…”

Some of the patients did not have enough confidence in the expertise and experience of their physician, and this had caused fear among them. One of the patients said,

“… I didn’t know how well the doctor would do his job! I was afraid he/she might not have enough experience and cannot perform it well …”

Angiography patients believed that increasing waiting time would itself cause an increase in their stress. In this respect, one of the patients said,

“… They took me so late; it was late; I had got a very severe headache. We had been sitting behind the waiting room’s door straight from seven thirty until 10 o’clock … I was very stressed; my hands were shaking …”

### Table 1

**Characteristics of Participants**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Marital Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients (n = 15)</td>
<td>50</td>
<td>M</td>
</tr>
<tr>
<td>34</td>
<td>M</td>
<td>Married</td>
</tr>
<tr>
<td>47</td>
<td>M</td>
<td>Married</td>
</tr>
<tr>
<td>49</td>
<td>F</td>
<td>Married</td>
</tr>
<tr>
<td>59</td>
<td>F</td>
<td>Married</td>
</tr>
<tr>
<td>51</td>
<td>M</td>
<td>Married</td>
</tr>
<tr>
<td>32</td>
<td>F</td>
<td>Married</td>
</tr>
<tr>
<td>70</td>
<td>F</td>
<td>Married</td>
</tr>
<tr>
<td>53</td>
<td>F</td>
<td>Married</td>
</tr>
<tr>
<td>56</td>
<td>F</td>
<td>Married</td>
</tr>
<tr>
<td>28</td>
<td>F</td>
<td>Single</td>
</tr>
<tr>
<td>47</td>
<td>M</td>
<td>Married</td>
</tr>
<tr>
<td>59</td>
<td>M</td>
<td>Married</td>
</tr>
<tr>
<td>64</td>
<td>M</td>
<td>Married</td>
</tr>
<tr>
<td>49</td>
<td>F</td>
<td>Married</td>
</tr>
</tbody>
</table>

M = male; F = female.
Anxiety

There was worry about performing angiography and its consequences in angiography patients. This class consisted of two primary classes of patient’s mental preoccupation, grief and anguish. One of the participants said,

“... I got uncomfortable. I said why is my heart twinging? I didn’t have any specific problem ... God! Why am I feeling like this? What is going to happen to me now? I don’t know what to do ...”

Some other patients considered their mental preoccupation more related to possible complications and becoming incapacitated. One of the participants said,

“... It’s not about dying. Dying?! Nobody dies from this; it’s not about this. I don’t want to get more incapacitated. I don’t want the operation; that’s why I am preoccupied with these thoughts ... it sometimes hurts, and then I calm down. But if I do it, then some other things might be needed to be done ...”

Another patient said,

“... I was busy about angiography and I was unhappy. This thought bothered me...”

The sadness and worries concerning the result of the angiography, family members, and heart problems were among the problems mentioned by patients. One of the female participants, who had five children, said,

“... Even right now that I am here (hospitalized in the hospital), I’m constantly concerned about the wellbeing of my kids. I tell myself if I die under angiography, I will no longer see them; what would they do after my death? These are my worries; This is my griefs about my children ...”

Factors such as lack of sufficient information about this test and the expectation that it would be difficult to perform had contributed to the grief and anguish of patients. One of these patients stated,

“... I was very sad last night (the night before the angiography). I was overwhelmed with worrying thoughts; I was preoccupied with those thoughts until the morning. I would say maybe I slept for at most an hour in all. I was awake all the time ...”

DISCUSSIONS

In this research, the perceived threat was the main theme. The findings of this study showed that patients mentioned the CAG as a threatening phenomenon for themselves and even for their families and believed that it would cause them some problems. Studies performed in this field show that many of these patients have stress and anxiety before CAG.5 In a study by Beckerman et al13 on CAG patients, the fear of the unknown was the main category derived from the experiences of these patients. Lunden et al14 also mentioned emotional reactions, such as fear and anxiety, in angiography patients. Harkness et al15 in their study found that CATH was anxiety-provoking as a result of waiting times for patients. In their study, Astley et al15 found that patients undergoing CAG have increased anxiety related to this test. In the study by Aazami et al,16 it was shown that some patients were afraid of death in the time of decision-making for undergoing coronary angioplasty.

Some of the participating patients did not have confidence in the expertise and experience of their physicians, and this factor was the cause of fear among them. Patients participating in the study by Beckerman et al13 identified the skill of the healthcare team performing angiography as one of the important factors in their tranquility and reducing their fear and stated that trust in the health team and their skills had been influential in reducing their fear. Higgins et al17 identified the patient’s confidence in the physician’s competency as a factor in the feeling of comfort and reducing their fear.

Patients were stressed because of lack of knowledge regarding angiography, which in some cases led them to change their mind to undergo angiography. The results of the study by Jamshidi et al5 show that CAG patients have a high level of stress. In their study, Lunden et al14 found that this increase in stress was higher in the stage before angiography. Beckerman et al13 also found that stress was high in most of the patients before and during the test. One of the reasons for stress that was mentioned by angiography patients in this study was the increase in the waiting time for performing angiography. Jang-Watt et al18 believed that the length of waiting by patients to perform angiography was an important factor in causing stress and anxiety for the patients and considered this problem would have a negative effect on the psychological state of patients.

In their study, Trottet et al19 showed that patients experienced a high level of anxiety before cardiac catheterization. In addition, the results of other studies conducted on this subject also showed that the anxiety of these patients was high before angiography.8,20,21

Gallagher et al22 in their study showed that the anxiety of patients before CAG was an important issue that should be carefully evaluated, and appropriate measures should be taken by the health-care team to reduce it.

Another dimension of perceived threat in this study was the mental preoccupation. In their study, Gallagher et al22 showed that the main reason for the concern of these patients was the suspicion about the consequences after performing these procedures. Jang-Watt et al18 believed that the doubt of the angiography patients is the cause of the increase in anxiety and, consequently, the unwillingness to perform this test. Stressful events, such as diagnostic tests, potentially expose patients to extreme psychological problems.6,5

Mental preoccupation of patients was mostly with regard to possible complications and becoming incapacitated. Lunden et al14 showed that the future of the disease and its possible effects on the lives of the patients lead to their worries and mental preoccupation. The results obtained in this regard are consistent with those of the study by Beckerman et al (1995), showing that possible complications and the need for taking further measures cause mental preoccupation and fear in these patients.13

In the present study, the concern was one of the primary categories derived from the data. Lunden et al14 in their study reported that the major cause of worry and discomfort in coronary angioplasty patients was how the disease would impact
the future of their lives. Johansson et al. in their study on cardiac patients showed that from the onset of the symptoms, these patients developed anxiety and discomfort with their disease.

This study showed that the Iranian patient candidates for CAG experienced psychological problems. It is necessary for nurses and other health professionals to familiarize these patients about CAG and to make them ready for undergoing this test. Patients’ education and psychological support of patients can reduce psychological problems among them. Furthermore, using other interventions such as peer education and visiting tour of CATH LAB before undergoing CAG can help the patients for decision-making and better encounter with this test.

CONCLUSION

The results of this study showed that CAG patients experienced psychological problems, which consequently make it difficult for them to confront this technique. Considering the psychological problems of patients undergoing coronary artery angiography and the importance of the calmness of the patients for performing this procedure, it is necessary to pay more attention to these problems and resolve them through effective nursing and medical care. Physicians and nurses should pay attention to these issues in the preparation and care plan and help patients to accept and adapt to this procedure by familiarizing patients with this test and providing psychological support. In this way, nurses and other health professionals can use interventions such as video information and peer education for better confrontation of patients with this test.

ACKNOWLEDGMENTS

This article is a part of PhD thesis of M.N.K. The authors would like to acknowledge the patients who took part and shared their experiences. We thank from Shiraz University of Medical Sciences for financial support of this study (Grant No 90-5806) and also Center for Development of Clinical Research of Nemazee Hospital and Dr Nasrin Shokrpour for editorial assistance.

Authors’ contribution: M.N.K. developed the study design, conducted the interviews and analysis, ensured trustworthiness, and drafted the manuscript. F.S. as the supervisor participated in study design, supervised the codes and data analysis process, and revised the manuscripts. F.A. and M.T.I. as research consultants participated in the study and advised during the study. All authors read and approved the final manuscript.

REFERENCES
