

# Meeting with Patients During Interventional Radiology: The Experience of Nurse Radiographers

**Mohammed Ahmed Mohammed Assiri<sup>1</sup>, Mohammed Alhassan Mohammed Mujayri<sup>2</sup>, Mohammed Misfer Abbas Alabbas<sup>3</sup>, Areej Ibrahim Mohammed Alrufaydi<sup>4</sup>, Abdulwahab Abdullah A Alqahtani<sup>5</sup>, Salmah Hussin Fahid Alfarwan<sup>6</sup>, Rawan Saeed Alzaher<sup>7</sup>, Ohoud Mohammed Ibrahim Almuyid<sup>8</sup>, Mariam Abdu Ali<sup>9</sup>, Elham Ali Almubarak<sup>10</sup>**

*1 Radiological Technology, Abha Maternity and Children Hospital*

*2 Radiological Technology, Abha Maternity And Children Hospital*

*3 Radiological Technology, Compliance Administration*

*4 Radiological Technology, Abha Maternity And Child Hospital*

*5 Radiological Technology, Aseer Health Cluster*

*6 Radiological Technology, Abha Maternity And Children Hospital*

*7 Radiological Technology, Abha Maternity And Children Hospital*

*8 Radiological Technology, Abha Maternity And Children Hospital*

*9 Nursing Technician, Abha Maternity And Children Hospital*

*10 Radiological Technology, Abha Maternity And Children Hospital*

## Abstract

A diverse range of interventional procedures is performed daily in catheterization laboratories within radiology departments worldwide. Nurse radiographers play a pivotal role in patient care, managing medical equipment, and ensuring sterility during these interventions. Their competencies align closely with those of registered nurses, emphasizing both technical and caregiving skills. This qualitative study aimed to explore nurse radiographers' experiences in caring for patients undergoing radiological interventions. Using a hermeneutic approach, individual interviews revealed the overarching theme of "sensing and responding to the patient." This theme was rooted in four subthemes: fostering a trusting environment, establishing effective communication, managing unexpected outcomes, and addressing pain and discomfort. These insights provide a deeper understanding of the nurse radiographer's role and the dynamics of patient care in interventional radiology.

**Keywords:** Experience; Nurse radiographer; Hermeneutic

## Introduction

A broad spectrum of interventional radiology (IR) procedures is performed in catheterization laboratories across the world. The shift in focus is toward less invasive interventions, encompassing treatments such as carotid, renal, and peripheral arterial stent insertion, repair, and various other procedures (Tarolli, 2007). In these settings, nurse radiographers are tasked with patient care, supervision of medical equipment, and ensuring sterility during the procedure. Nurse radiographers hold a bachelor's degree and are registered nurses in diagnostic radiology (Andersson, Fridlund, Elgan, & Axelsson, 2008; Nieme & Pasivaara, 2007; Socialstyrelsen, 1995). They are referred to as "nurse radiographers" to distinguish their role from that of "radiology nurses," a term with different meanings in various regions.

In the catheterization laboratory, the patient is attended by two nurse radiographers. One is responsible for managing the patient and equipment, while the other assists the physician during the procedure. This interaction between the nurse radiographer and the patient typically occurs for a brief period, and although most procedures are performed under moderate sedation with local anesthetics, patients may still exhibit signs of discomfort or anxiety (Andersson et al., 2008; Patatas & Koukkoulli, 2009). The nurse-patient relationship plays a central role in nursing care and can significantly influence the patient's perception of the care they receive (Shattell, Hogan, & Thomas, 2005; Tornqvist, Månsson, Larsson, & Hallström, 2006).

The ability to connect with the patient is crucial for understanding and facilitating their involvement in the procedure (Berg, Scott, & Danielsson, 2006). Consequently, nurse radiographers must possess both strong caregiving abilities and technical proficiency (Andersson et al., 2008; Kirschner, Orlovski, & Deyo, 2009; Socialstyrelsens Allmänna råd, 1995). Previous studies highlight that assessment is a key skill within the nurse radiographer's caregiving competence, as it is essential to recognize and address the individual needs of patients (Andersson et al., 2008; Booth, 2008; Bowman, 1993). However, there remains a gap in research on the dynamics between nurse radiographers and patients within radiology departments (Andersson et al., 2008; Tornqvist et al., 2006). Moreover, there is limited research on the experiences of nurse radiographers in providing care during IR procedures.

This study aimed to explore and describe the experiences of nurse radiographers in caring for patients undergoing interventional radiology procedures in catheterization laboratories.

## **METHODOLOGY**

Hermeneutic theory, which originates from the Greek word *hermeneuein* (to interpret), was used for this study. Originally applied in disciplines such as history, philosophy, law, and religion, hermeneutics is the theory and practice of interpretation (van Manen, 1990). According to Gadamer (2004), there is no rigid method for hermeneutic research, but several foundational concepts should guide the process. These include preunderstanding, the hermeneutic circle, and the fusion of horizons. Preunderstanding involves the interpreter's own biases, experiences, and expectations, which must be continually revised. The hermeneutic circle refers to the back-and-forth movement between understanding parts and the whole. The fusion of horizons occurs when the researcher's perspective and the text's meaning intertwine to produce a deeper understanding. In this study, the researcher's preunderstanding was shaped by nearly 10 years of experience in patient care during IR, which was considered throughout the interpretation of the interviews.

### **Participants**

The study involved individual interviews with nurse radiographers working regularly in catheterization laboratories at three hospitals. A total of 14 nurse radiographers (13 women, and 1 man) volunteered to participate. Their ages ranged from 28 to 63 years, and they had between 2 and 20 years of experience in IR.

### **Data Collection**

The participants were informed about the study by their department head. The first author invited them to participate during a staff meeting. Interested participants selected a time and place for the interview, with all 14 choosing a private room at the hospital. Participants were provided with both written and oral information about the study before the interviews

began. All interviews were recorded, starting with the question: "Can you describe your experiences of caring for patients in the catheterization laboratory?" The interview followed the participants' responses, with the researcher asking for clarification using prompts such as "Could you please explain?" and "How did that make you feel?" Interviews lasted between 25 and 70 minutes

### **Data Analysis**

The interviews were transcribed verbatim and analyzed using a hermeneutic approach. In this methodology, meaning is not just captured based on the text's content but on what it discloses (Allen & Jensen, 1990). The analysis followed the five steps outlined by Fleming, Gaidys, and Robb (2003), derived from Gadamer's hermeneutic philosophy, which is as follows:

1. Formulation of the research question.
2. Identification of the researcher's preunderstanding.
3. Initial interpretation through dialogue during the interview.
4. Second interpretation during transcription.
5. Establishing trustworthiness through participant feedback.

After transcription, the researcher's initial interpretation was based on the interviews, followed by a second interpretation during transcription. The participants were invited to review their transcribed interviews for additional feedback or further clarification. Eight participants provided further comments, often reaffirming their earlier statements. The emerging themes were carefully reviewed, and interpretations were continually revisited to refine understanding.

### **Findings**

The analysis of nurse radiographers' descriptions revealed the multifaceted nature of caring for patients undergoing interventional radiology (IR). A central theme emerged from the data: "sensing and responding to the patients." This overarching theme was divided into four primary sub-themes, each representing critical aspects of the nurse radiographers' experiences. These sub-themes, with their corresponding elements, are outlined in the table below.

**Table 1: Subthemes, Themes, and Main Theme**

Subthemes	Themes	Main Theme
The first encounter is important.	Creating a trusting atmosphere	Sensing and responding to the patient
Ability to read and assess the patient		
Consistent information given to the patient		
Searching for communication opportunities	Creating a dialogue	
Interaction: barriers and possibilities		
Uncertainty and frustration	Dealing with unpredictable outcomes	
Feedback from patients and the medical outcome is lacking.		
Challenging and exciting		
Awareness and presence	Dealing with pain and agony	
Being unable to relieve patients from pain		

### **1. Creating a Trusting Atmosphere**

The participants emphasized the significance of the first encounter between the nurse radiographer and the patient. This initial interaction is critical for building trust, which is a foundational element for effective care throughout the procedure.

#### **The First Encounter is Crucial**

Participants highlighted that the first impression sets the tone for the entire patient-care experience. Establishing trust through a positive first encounter is seen as essential for fostering a therapeutic relationship. Key methods to achieve this included proper self-introduction, maintaining eye contact, and ensuring a calm and reassuring environment. Unlike other hospital settings where nurses manage multiple patients, the ability to focus solely on the patient during the initial interaction was considered vital. However, stressors such as time constraints and understaffing often hindered this ideal encounter, leading to potential communication challenges.

#### **Ability to Assess and Understand the Patient**

The process of evaluating patients began with reviewing their medical charts and referrals. However, these documents often lacked personal details about the patient's emotional state and needs. As a result, nurse radiographers relied heavily on their intuition and experience to assess the patient's comfort level and emotional needs. Despite the time limitations, participants stressed the importance of ensuring that the patient felt understood and at ease.

### **Consistent Information for the Patient**

All participants stressed the need to provide consistent, clear, and accurate information to the patient throughout the procedure. This transparency, from pre-procedure explanations to updates during the intervention, was seen as crucial for involving the patient in their care and maintaining their trust. By keeping patients well-informed, nurse radiographers could help alleviate anxiety and create a sense of security during the procedure.

### **2. Creating Dialogue**

Building a dialogue with patients was identified as an essential aspect of effective communication. Through conversation, nurse radiographers could better understand the patient's needs and alleviate concerns.

### **Barriers and Opportunities in Interaction**

The ability to engage patients in dialogue varied, with some patients more open to communication than others. Challenges such as the presence of multiple healthcare professionals in the room, the patient's emotional state, and language barriers could complicate communication. In these cases, respecting the patient's choice to remain silent was important. Furthermore, professional interpreters were deemed essential in overcoming language barriers, while non-verbal cues like eye contact and body language helped bridge communication gaps.

### **3. Dealing with Unpredictable Outcomes**

Participants noted that interventional radiology procedures often involved unpredictable outcomes, which could lead to feelings of frustration for both the patient and the radiographer. The uncertainty surrounding the duration and results of the procedure added an element of unpredictability to patient care.

#### **Uncertainty and Frustration**

The unpredictability of outcomes contributed to frustration, particularly when procedures did not go as planned. The lack of feedback regarding medical results also led to feelings of dissatisfaction among participants. Many expressed a desire for confirmation from the patient regarding their satisfaction with the care provided. This feedback was seen as necessary to gauge the success of the intervention and ensure that the patient's needs were met.

### **4. Dealing with Pain and Agony**

Dealing with patient discomfort and pain was a recurring theme in the participants' descriptions. Maintaining awareness and empathy for patients experiencing distress was highlighted as crucial for ensuring quality care.

#### **Awareness and Presence**

Although the radiological procedures might be routine for the staff, participants recognized that these procedures were unfamiliar and potentially distressing for the patient. Maintaining a compassionate and empathetic presence was essential in helping patients feel safe and supported. The overall atmosphere in the procedural room, shaped by positive staff interactions, was critical for calming anxious patients and promoting a sense of security.

#### **Inability to Alleviate Patients' Pain**

A significant emotional challenge for nurse radiographers was the inability to fully alleviate patients' pain, especially when patients arrived in evident discomfort or experienced pain during the procedure. Despite their best efforts, participants

acknowledged that pain relief was not always adequately addressed. This led to feelings of inadequacy and frustration, as participants struggled with the emotional difficulty of being unable to provide effective pain management. Several obstacles were identified, including the lack of standardized pain management protocols and reluctance from some physicians to prescribe sufficient pain relief medication.

### **Discussion**

The interviews with nurse radiographers led to the identification of a central theme: "Sensing and responding to the patient." This theme explores their experiences with patients undergoing interventional radiology (IR). The concept of "sensing" relates to both the professional relationship and presence. Wilson (2008) argues that nurses have a unique chance to build therapeutic relationships through their presence, which involves connecting with the patient's experience, sensing beyond the clinical data, and simply being with the patient.

#### **Establishing a Trusting Atmosphere**

The nurse radiographers described the importance of sensing the patient's needs and making the patient feel that they are the center of attention. This is essential in creating a trusting atmosphere, aligning with Paterson and Zderad (1988), who suggested that nurses must use all their senses to foster authentic encounters. How patients are welcomed and the nurses' willingness to serve contribute significantly to an atmosphere of comfort (Edvardsson, Sandman, & Holriz Rasmussen, 2005).

When the nurse radiographer holds overall responsibility for the patient undergoing IR, they stress the importance of building a relationship. According to Halldorsdóttir and Hamrin (1997), taking responsibility for the relationship implies genuine concern, which patients perceive as compassion. Moreover, the relationship with the patient is essential for mediating care and enriching the nurses' work (Mok & Chiu, 2004). However, when the nurse is assisting a physician or when an anesthetist's presence is required, it can affect the nurse radiographer's connection with the patient, making them feel invisible, "just another set of blue scrubs passing by."

The nurse radiographers noted that mutual interaction between colleagues significantly impacted the atmosphere in the catheterization laboratory, which in turn influenced patients' experiences and their perception of being professionally cared for. Bjarnason and LaSala (2011) discussed the shared responsibility of nurses to create moral environments as patient advocates.

#### **Creating Dialogue**

Nurse radiographers described their purpose in engaging with patients as finding the key to understanding each patient as an individual, which is necessary for offering personalized care. To facilitate this dialogue, they emphasized the importance of having time to truly connect with the patient and gather enough information before starting the procedure. Having sufficient time and information can help meet the varied needs of patients, reducing the risk of violating their integrity. In cases where patients are reluctant to communicate, the nurse radiographer must assess whether this reluctance stems from pain, fear, incapacity, or a personal choice to remain silent.

Participants stressed the importance of dialogue for both medical assessment and patient interaction. Studies on perioperative dialogue confirm that such conversations provide

strength to the nurses and reassure patients that they are the focus of attention (Rudolfsson, von Post, & Eriksson, 2007). Halldorsdóttir and Hamrin (1997) noted that healthcare professionals have the power to support or discourage patients. However, maintaining genuine concern in medical settings that prioritize efficiency can be challenging and might risk neglecting the caring relationship (Berg, Scott, & Danielsson, 2007; Billeter-Koponen & Fredén, 2005).

### **Handling Unpredictable Outcomes**

Nurse radiographers described radiological interventions as unpredictable, which means they often encounter patients without knowing the outcome or how long the procedure will take. Nevertheless, they try to instill a sense of hope, ensuring that patients feel they are being cared for. Any intervention failure can lead to frustration and feelings of powerlessness among the nurse radiographers.

The study found that nurse radiographers did not regularly receive feedback on the outcomes of procedures, making it difficult to develop a comprehensive understanding of the results. This lack of feedback could cause a disconnect between the radiographers and the patients. Feedback helps close the loop on the relationship and provides valuable insights for future interventions. These findings support previous studies emphasizing the importance of feedback in critical care settings. For example, intensive care nurses have reported that follow-up information about treatment outcomes enhances their knowledge and strengthens their relationships with patients (Engström & Söderberg, 2010; Lindahl & Sandman, 1998). Regular feedback could be beneficial for nurse radiographers, and group clinical supervision has been shown to reduce stress and foster understanding (Cross, Moore, & Ockerby, 2010).

### **Addressing Pain and Discomfort**

Nurse radiographers indicated that it is challenging to address patients' pain and discomfort if the patient does not fully understand the procedure or its purpose. The participants emphasized the importance of consistent information before the radiological intervention, aligning with Murphy (2001), who highlighted that patients experience anxiety when their expectations do not match reality. Discrepancies in information from different departments may increase the patient's anxiety. Furthermore, the nurse radiographer is responsible for the patient's care during IR and must be able to respond to all their needs, including pain relief. Without a prescription from the physician, the nurse radiographer may struggle to meet these needs, which can create feelings of inadequacy. Wiman and Wikblad (2004) pointed out that when nurses fail to meet patient's needs, it risks leading to instrumental behavior, which is seen as uncaring due to poor communication.

### **Conclusion**

To effectively sense and respond to the diverse needs of patients, nurse radiographers must create a trusting atmosphere and foster dialogue with the patient. This allows them to handle unpredictable outcomes and manage pain and discomfort. Nurse radiographers need to establish routines that promote a caring relationship with the patient. This ensures that they can address patient needs and avoid the risk of adopting an instrumental approach. A strong caring relationship with patients boosts the nurse radiographers' sense of recognition and job satisfaction. Regular feedback on the outcomes of interventions would also be valuable for nurse radiographers to enhance their understanding and improve future care.

## References

- Allen, M.N., & Jensen, L. (1990). Hermeneutical inquiry. Meaning and scope. *Western Journal of Nursing Research, 12*(2), 241-253.
- Andersson, B., Fridlund, B., Elgan, C., & Axelsson, A. (2008). Radiographers' areas of professional competence related to good nursing care. *Scandinavian Journal of Caring Sciences, 22*, 401-409.
- Berg, L., Scott, C., & Danielsson, E. (2006). An interpretative phenomenological method for illuminating the meaning of the caring relationship. *Scandinavian Journal of Caring Sciences, 20*, 42-50.
- Berg, L., Scott, C., & Danielsson, E. (2007). Caring relationships in a context: Fieldwork in a medical ward. *International Journal of Nursing Practice, 13*(2), 100-106.
- Billeter-Koponen, S., & Fredén, L. (2005). Long-term stress, burnout and patient-nurse relations: Qualitative interview study about nurses' experiences. *Scandinavian Journal of Caring Sciences, 19*, 20-27.
- Bjarnason, D., & LaSala, C.A. (2011). Moral leadership in nursing. *Journal of Radiology Nursing, 30*, 18-24.
- Booth, L. (2008). The radiographer-patient relationship: Enhancing understanding using a transactional analysis approach. *Radiography, 14*(4), 323-331.
- Bowman, S. (1993). The radiographer/patient relationship: A short term but vital interaction. *Radiography Today, 59*, 17-28.
- Cross, W., Moore, A., & Ockerby, S. (2010). Clinical supervision of general nurses in a busy medical ward of a teaching hospital. *Contemporary Nurse, 35*(2), 245-253.
- Edvardsson, D., Sandman, P.-O., & Holriz Rasmussen, B. (2005). Sensing an atmosphere of ease: A tentative theory of supportive care settings. *Scandinavian Journal of Caring Sciences, 19*, 344-353.
- Engstrom, A., & Söderberg, S. (2010). Critical care nurses' experiences of follow-up visits to an ICU. *Journal of Clinical Nursing, 19*, 2925-2932.
- Fleming, V., Gaidys, U., & Robb, Y. (2003). Hermeneutic research nursing: Developing a Gadamerian-based research method. *Nursing Inquiry, 10*(2), 113-120.
- Gadamer, H.-G. (2004). *Truth and method* (2nd revised ed.). London, NY: Continuum.
- Halldorsdóttir, S., & Hamrin, E. (1997). Caring and uncaring encounters within nursing and health care from the cancer patients' perspective. *Cancer Nursing, 20*(2), 120-128.
- Kirschner, R., Orlovski, T., & Deyo, D.K. (2009). Meeting OR standards in the evolving interventional procedure room and cardiac catheterization laboratory. *Journal of Radiology Nursing, 28*, 43-50.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: SAGE Publications, Inc.
- Lindahl, B., & Sandman, P.-O. (1998). The role of advocacy in critical care nursing: A caring response to another. *Intensive and Critical Care Nursing, 14*, 179-186.
- Mok, E., & Chiu, P.C. (2004). Nurse-patient relationships in palliative care. *Journal of Advanced Nursing, 48*(5), 475-483.
- Murphy, F. (2001). Understanding the humanistic interaction with medical imaging technology. *Radiography, 7*, 193-291.

- Nieme, A., & Pasivaara, L. (2007). Meaning contents of radiographers' professional identity as illustrated in a professional journal: A discourse analytical approach. *Radiography, 13*, 258-264.
- Patatas, K., & Koukkoulli, A. (2009). The use of sedation in the radiology department. *Clinical Radiology, 64*, 655-663.
- Paterson, J.G., & Zderad, L.T. (1988). *Humanistic nursing*. New York, NY: National League for Nursing.
- Rudolfsson, G., von Post, I., & Eriksson, K. (2007). The perioperative dialogue. *Holistic Nursing in Practice, 21*(6), 292-298.
- Shattell, M., Hogan, B., & Thomas, S.P. (2005). "It's the people that make the experience good or bad": The patients' experience of the acute care hospital environment. *AACN Clinical Issues: Advanced Practice in Acute & Critical Care, 16*(2), 159-169.
- Socialstyrelsens Allmänna råd, 1995, Socialstyrelsen (SOSFS). Kompetenskrav för sjuksköterskor och barnmorskor (Level of Competence in Nurses and Midwives). The National Board of Health and Welfare, Stockholm, Sweden.
- Socialstyrelsen (SOSFS). Kompetenskrav för tjänstgöring som sjuksköterskor och barnmorskor (Level of Competence in Nurses and Midwives), 1995. The National Board of Health and Welfare, Stockholm, Sweden.
- Tarolli, K. (2007). Percutaneous interventions. *Critical Care Nurse Q, 30*(1), 12-19.
- Tornqvist, E., Månsson, A., Larsson, E.-M., & Hallström, I. (2006). It's like being in another world: Patients' lived experience of magnetic resonance imaging. *Journal of Clinical Nursing, 15*, 954-961.
- van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. Canada: The Athlone Press.
- Wilson, M.H. (2008). "There's just something about Ron": One nurse's healing presence amidst failing hearts. *Journal of Holistic Nursing, 26*(4), 303-307.
- Wiman, E., & Wikblad, K. (2004). Caring and uncaring encounters in nursing in an emergency department. *Journal of Clinical Nursing, 13*, 422-429.
- World Medical Association. Declaration of Helsinki (2008). Retrieved from <http://www.wma.net>. April 24, 2011.