

*Original/Research Paper*

## Emergency medical technicians' experience of managing patients' pain during hospital transport: A qualitative study

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<https://doi.org/10.32598/JNRCP.23.61>

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### Abstract

This study aimed to explore and elucidate the experiences of emergency medical technicians concerning the pain management of patients during hospital transfers. By delving into their feelings, thoughts, and attitudes, the study sought to provide valuable insights to address the challenges faced in this critical aspect of patient care. In this qualitative study, targeted sampling was employed to recruit 10 emergency medical technicians as participants. Data were gathered through interviews and subsequently transcribed onto paper. The collected information was then subjected to analysis using the conventional content analysis method. The analysis of the collected data and the resulting findings revealed the presence of several barriers, including limited options for pain management, concerns about drug side effects, fear of potential repercussions, and the lack of readily available medical support for emergency medical technicians. The study's findings highlight the multitude of barriers and challenges in managing patients' pain, underscoring the paramount importance of pain relief as a critical issue. This significance becomes even more apparent in underserved and remote regions with limited treatment resources, where emergency medical technicians must prioritize this matter as a vital concern.

**Keywords:** Pain Management, Emergency Nursing, Emergency Medical Technicians, Patient Transfer, Qualitative Study.

### 1 | Introduction

Pain is a universal sensation, and at times, its intensity drives individuals to seek both the underlying cause and a suitable remedy [1, 2]. The management of pain is a multifaceted process that requires collaboration and cooperation among teams and various disciplines [3, 4]. Effective pain management in emergency departments and at the accident scene heavily relies on crucial cooperation between medical teams and emergency medical technicians [5]. Based on current research, approximately 78% of patients seeking medical attention for pain-related issues, often experiencing moderate to severe discomfort, visit emergency departments [6].

Iran ranks among the leading countries globally in terms of accidents and related incidents, leading to a considerable number of pre-hospital emergency patients being injured in such

incidents [7]. These injuries often result in severe pain due to the nature of the bodily damage. Studies have indicated that the prevalence of pain among trauma victims ranges from 52% to 91% [2, 4, 5]. The presence of acute pain adversely impacts the care and treatment process, causing a range of adverse effects [8]. Additionally, it affects various body systems, giving rise to complications such as tachycardia, elevated blood pressure, increased cardiac strain, and hemodynamic instability [9, 10]. Furthermore, acute pain can lead to breathing difficulties, atelectasis, mental disorders, and chronic pain syndrome [9].

Regrettably, pain management in the pre-hospital emergency room is often inadequate, leading to some injured individuals not receiving appropriate pain relief medication [10]. Patients have options beyond drug-based methods for pain control, as the use of drugs may be limited due to their potential side effects [5].

Non-pharmacological methods of pain management encompass physical and psychological approaches, often serving as complements or alternatives to drug treatments, while avoiding the adverse effects associated with medications [11]. Considering the mentioned aspects, this study was carried out to explore the experiences of emergency medical technicians in handling patient pain during hospital transfers.

## **2 | Methods**

### **2.1 | Design and setting**

Following the ethical code IR.BUMS.REC.1401.376, this qualitative study utilized the content analysis approach, which is well-suited for exploring individuals' experiences and attitudes toward a particular subject. Content analysis involves summarizing, categorizing, and describing data, making it an appropriate method for this investigation [11, 12].

### **2.2 | Participants**

For this study, a purposive sampling method was employed to select 10 emergency medical technicians aged between 25 to 45 years, with 5 to 20 years of work experience. The researcher's knowledge, previous experiences, and personal judgment were utilized to identify individuals who had practical experience in managing patient pain during hospital transfers.

### **2.3 | Procedure and data collection**

The selection criteria for participants included their willingness to share experiences and a minimum of 5 years of work experience. Data collection was carried out through scientific, face-to-face interviews conducted at the Emergency Base, with each interview lasting approximately 30 minutes per person. The questions that were asked to the emergency medical technicians included the following: "Please tell us about your experiences when dealing with a patient who complains of a lot of pain"; "What actions do you usually take for such patients during transport to the hospital?"; "Tell us the factors that influence your decisions in choosing a pain management method". Also, what problems during the transfer of the patient to the hospital cause the pain control of the patients not to be done properly? Questions such as "Can you explain more clearly what you mean" or "Can you explain more about this issue". At the end of the interview, the technicians were asked to state if they have a specific point or explanation in mind.

### **2.4 | Data analysis**

Initially, all the mentioned technicians provided consent for the interviews, which were conducted in written format. To analyze

the qualitative data, it was advised to transcribe the entire interview immediately after each session. The text was then read to gain a comprehensive understanding of its content, and primary codes were assigned to similar answers and important points. These primary codes were subsequently grouped into more extensive categories to determine the main content of each class.

Throughout the study, efforts were made to identify similar points and variations in responses by analyzing all the interviews. Additionally, to enhance certainty, certain answers and significant points expressed by the technicians were cross-verified with other technicians working at the emergency base, with their consent. In some instances, the interviews extended beyond the scheduled time to ensure that all necessary data was captured, and no new information remained untapped.

To validate the accuracy of the study, the researchers employed Guba and Lincoln's golden standard, which includes four scales: acceptability, reliability, verifiability, and transferability [13]. To further ensure data accuracy and acceptability, pertinent questions were directed to emergency medical technicians in neighboring cities' bases, with their written and informed consent.

## **3 | Results**

### **3.1 | Barriers to pain control**

General barriers to pain management of patients during hospital transfer have shown in Table 1.

#### **3.1.1 | Limited authority**

The statements of the technicians indicated that more attention should be paid to the powers of the emergency personnel. One of the most important barriers was the technicians' lack of authority to prescribe painkillers. For example, it was stated that "to inject an analgesic drug such as ketorolac or injectable acetaminophen, I should consult with the supporting doctor" (Participant No. 8). Another participant stated that "in case of pain relief and the need to use this medicine again, the supporting doctor should be consulted again" (Participant No. 4). Also, other emergency medical technicians stated that "I have to look for non-pharmacological methods of pain control due to limited options" (Participant No. 5).

#### **3.1.2 | Time limitation**

Among the cases raised by most of the technicians, the lack of time to manage and relieve pain was stated. "Usually, in missions inside the city, due to the short route and little time, and the need to consult with the supporting doctor, and in general, there is not much time left to pay attention to the patient's pain" (Participant

No. 7). Lack of access to the supporting doctor: "In the villages and some of the routes due to the impassability and the presence of mountainous areas, it is not possible to communicate with the supporting doctor via wireless or through mobile phones and other means of communication due to the lack of an antenna, and as a technician, I am forced to use non-pharmacological methods to relieve the patient's pain" (Participant No. 1).

### **3.1.3 | Considering patients' pain is unreal**

"Sometimes, in my opinion, due to stress and lack of awareness of the procedures performed for them, patients express their pain much more intense than what exists. Sometimes, the patient expresses his pain more than what is there so that the technician pays more attention to him, and in these cases, I care more about my diagnosis of the patient's pain level than what the patients say" (participant No. 6).

### **3.1.4 | Absence of narcotics**

"Sometimes the patients' pain is so severe that narcotic drugs such as morphine must be used to relieve the pain, but although morphine is prescribed in offline protocols in cases of severe pain, this drug is not available in the ambulance and the technician is forced to use another drug such as ketorolac, which in some cases may not be able to control the patient's pain" (Participant No. 10).

### **3.1.5 | Non-pharmacological pain relief methods are time-consuming**

"Usually, medicinal methods of pain relief work very quickly, and non-medicinal pain relief methods such as massaging take much longer to take effect. Usually, in these cases, if the doctor does not give the order to prescribe medicine, I complete the mission report" (Participant No. 2).

### **3.1.6 | Care gaps**

One of the subcategories that were obtained in the caring atmosphere is the care gaps that the participants in the study mentioned. These gaps were extracted from both the patients and the nurses' experiences. In the observations, gaps in patient care and education by nurses and physicians and inappropriate feedback were evident.

### **3.1.7 | Refusal to express pain due to the negligence of some technicians**

"Some patients express their pain at the moment of entering the hospital or when the doctor comes to their bedside, while they did not show any pain during the transfer to the hospital; after talking with the patient, it was pointed out that some technicians were indifferent to their pain" (Participant No. 3).

### **3.1.8 | Weakness of proper monitoring system**

"Some technicians do not pay attention to the patient's pain and do not try to solve it for any reason. One of the reasons may be the weakness of the monitoring system because none of the technicians have been held accountable for controlling the patient's pain" (Participant No. 7).

### **3.1.9 | Inadequate training of emergency medical technicians to examine pain and drug and non-drug methods of its control**

"No training is given to the technicians regarding non-pharmacological or pharmaceutical pain control, and there is no such thing as patient pain management and control in the courses of emergency medicine. Therefore, the technician is forced to communicate with the supporting doctor, which will cause a waste of time to control the patient's pain" (Participant No. 9). According to the majority of technicians, "We do not prescribe painkillers without a doctor's prescription".

### **3.1.10 | Professional healthcare team performance**

The lack of personnel, the need to reduce medical errors, and the ever-increasing expectations of patients are some of the things that highlight the importance of a strong healthcare team and teamwork. Teamwork is essential for better patient management and RHD development.

### **3.1.11 | Procrastination**

Due to the shortness of the route, it sometimes happens that I tell the patient, "We are near the hospital, we will reach the hospital now, or wait a little longer, it is not far from the hospital and... and I am forced to sympathize with the patient" (Participant No. 2).

**Table 1.** Barriers to pain management of patients during a hospital transfer.

No.	Sub-category	Category	Theme
1	Lack of access to a backup doctor	Barriers related to inherent limitations in this job	General barriers in pain management of patients during a hospital transfer
2	Inadequate training of technicians		
3	Weakness of proper monitoring system		
4	Limited powers		
5	Time-consuming non-pharmacological method		
6	Absence of narcotics		
1	Considering patients' pain is unreal	Barriers to Emergency Medical Technicians	
2	Procrastination		
1	lack of time	Other barriers to pain management of patients	
2	Refusing to express pain		

#### 4 | Discussion

In this study, it was observed that emergency medical technicians encounter numerous challenges while managing patients' pain during hospital transfers. During interviews with the technicians, they emphasized that effectively managing and alleviating patient pain is a fundamental patient right. Previous research focusing on pain management in hospital emergency departments has identified several significant barriers to pain control. These barriers include insufficient knowledge and concerns about drug side effects, high work demands and time constraints, limited treatment options, and difficulties in communication [14-18].

Similar studies conducted in hospitals have reported that nurses often face the fear of complications such as cardiac arrest and drug addiction due to their limited knowledge about pain management challenges [17, 19]. However, research has shown that organizing workshops and training sessions can effectively increase nurses' and medical staff's awareness regarding proper pain management [20].

Among the findings extracted from these studies, significant emphasis has been placed on recognizing the relief of a patient's pain as a fundamental and primary right. Esteemed international organizations like the World Health Organization have highlighted the importance of this matter. In contemporary healthcare, patient pain relief is considered a key priority, reflecting both moral and legal obligations [21].

Establishing a compassionate and trust-based relationship is recognized as a fundamental principle in pain management [19-23]. One of the main challenges nurses' encounters while managing patients' pain is a lack of trust in the patient's self-reported pain levels. To address this, adopting a patient-centric approach, which involves directly asking the patient about their pain level, is regarded as a preferable method [24].

The issues identified in this study are applicable and relevant to all medical personnel. Just like in hospitals, some nurses in ambulances may also rely on personal and subjective judgments rather than fully trusting the patient's self-assessment of pain [25].

#### 5 | Conclusions

The findings of this study highlight the existing barriers in pain management during ambulance transfers. Based on these results, policymakers and relevant authorities in the field should consider revising the roles and responsibilities of emergency medical technicians and providing them with enhanced empowerment. Moreover, the research underscores the importance of prioritizing pain relief, especially among medical staff, including emergency medical technicians and nurses, urging for increased attention toward addressing this significant issue.

#### Acknowledgements

Not applicable.

#### Authors' contributions

Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work: SMM, HDA, HS; Drafting the work or revising it critically for important intellectual content: SMM, HDA, HS; Final approval of the version to be published: SMM, HDA, HS; Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: SMM, HDA, HS.

#### Funding

Self-funded.

#### Ethics approval and consent to participate

The research was approved by the ethics committee of Birjand University of Medical Sciences, Birjand, Iran (IR.BUMS.REC.1401.376). After obtaining permission from the hospital administration, the researchers visited the hospital. Verbal informed consent was obtained from participants.

#### Competing interests

We do not have potential conflicts of interest with respect to the research, authorship, and publication of this article.

### Availability of data and materials

The datasets used during the current study are available from the corresponding author on request.

### Using artificial intelligent chatbots

None.

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**How to cite this article:** Mohsenizadeh SM, Damadi Abiz H, Salehi H. Emergency medical technicians' experience of managing patients' pain during hospital transport: A qualitative study. *J Nurs Rep Clin Pract*. 2024;2(2):54-58. <https://doi.org/10.32598/JNRC.P.23.61>.