

## Assessment of the Patient's Satisfaction Regarding Pain Management at the Emergency Department in King Faisal Specialist Hospital and Research Centre - Riyadh, Saudi Arabia

Abeer Ghawnni\*, Nouf Alrushid, Ola Alabdullatif and Areej Alnughaimshi

Department of Emergency Medicine, King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia

\*Corresponding Author: Abeer Ghawnni, Department of Emergency Medicine, King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia.

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### Abstract

**Background:** Patient satisfaction is a vital measure of the quality of care in the emergency department (ED). Furthermore, positive patient experiences are affected by efficient communication with healthcare providers, their empathetic nature, and effective pain management.

**Aim:** This study aimed to assess the patient's satisfaction in the ED regarding pain management at King Faisal Specialist Hospital and Research Centre in Riyadh.

**Methods:** This observational cross-sectional study was conducted among patients who visited the ED for pain management reasons from January 2023 to May 2023. The data collection tool was self-structured and included questions assessing patients' demographic characteristics and satisfaction with pain management practices in the ED using a 5-point Likert scale.

**Results:** The study included 201 patients who attended the ED throughout the study period and had the willingness to participate. The median (IQR) age was 40 (28) years. Most of the patients were females (59.8%), Saudi nationals (92%), and the most common educational level was a university degree or higher (47.3%). The most common pain location among patients was abdominal pain (20.8%), and the most common pain type was acute pain (55.7%). About two-thirds of patients (62.7%) received analgesics for pain control, and non-opioid analgesics were the most prescribed (35.1%). There was a significant correlation between the severity of pain before and after receiving the analgesic and patients' satisfaction with care quality (p-value= 0.18 and 0.001, respectively). Patients who agreed that the ED staff adequately assessed their pain, received the analgesic promptly, adequately responded to their pain, had good communication with ED nurses and physicians, received adequate information about their illness, had their pain taken seriously, and were satisfied with the treatment they received for pain. Those patients were significantly more likely to report high levels of satisfaction with their overall quality of care in the ED ( $P < 0.001$  for all factors).

**Conclusion:** The results of this study suggest that most patients reported high levels of satisfaction with pain management practices in the ED. Most patients reported adequate pain assessment, satisfactory communication with healthcare providers, and satisfaction with their pain treatment. Conversely, a small percentage reported a negative opinion about the quality of care in the ED. Pain severity before and after receiving analgesics was associated with patients' satisfaction with the care quality.

**Keywords:** Pain; Emergency Department; Saudi Arabia

## Introduction

Pain is a global health disorder. It is a primary cause of more than 50% of emergency department (ED) visits and is considered the fifth most common vital sign. Previous studies have reported that more than 70% of patients who visit EDs have a primary complaint related to pain. Furthermore, pain is severe enough to disturb normal functioning in about 25% to 50% of the community of older adults [1-3].

Pain can be divided into two broad categories: acute and chronic. Acute pain usually correlates with trauma or other known pathologic disorders and generally resolves once the condition resolves. This type of pain can be managed effectively with opioids and different analgesic types, including nonsteroidal anti-inflammatory drugs (NSAIDs). In contrast, chronic pain can result from nervous system malfunction, degenerative disorders, or neoplasm [4].

The World Health Organization (WHO) recognizes pain relief as a human right, but current data indicate a global issue of acute pain undertreatment in EDs. On the other hand, improper pain management may cause a high risk of complications, including sleep disturbances, depression, and delirium [5,6].

Multiple initiatives have tried to enhance ED pain management. These involve training of the staff, mandatory pain score recording, and time-to-analgesia key performance indicators [7].

Effective pain management is essential to practicing emergency medicine (EM). Nonetheless, concerns range from whether some patient populations receive insufficient analgesia and whether some patients receive excessive opioid medicine, putting them at unnecessary risk for side effects [8].

Good patient satisfaction does not require the elimination of pain, but rather that pain should be at a manageable level [8]. Appropriate reduction of pain is associated with some factors, including the empathetic nature of the healthcare providers, efficient communication with healthcare providers, and rapid pain management [9].

Patient satisfaction is a vital measure of the quality of care received in the ED. Furthermore, positive patient experiences are affected by efficient communication with healthcare providers,

their empathetic nature, and effective pain management. This study aimed to assess the patient's satisfaction in the ED regarding pain management at King Faisal Specialist Hospital and Research Centre in Riyadh, a tertiary hospital center.

## Methodology

### Study design and setting

This observational cross-sectional study was conducted among patients who visited the ED of King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia, from January 2023 to May 2023.

### Study populations

The study included patients who visited the ED of King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia, during the data collection period. The study included patients 14 years or older requiring pain management.

### Data collection tool

The data collection tool was a self-structured questionnaire designed based on a review of the relevant literature to address the study objectives. The questionnaire consisted of two parts; the first part included demographic characteristics such as age, gender, educational level, nationality, diagnosis, comorbidity, type of pain, pain location, and pain severity before and after pain management. The second part of the questionnaire assessed patients' satisfaction with pain management practices in the ED using a 5-point Likert scale.

### Statistical analysis

Data were extracted into an Excel sheet and then revised. The statistical analysis was done using the computer program IBM SPSS (version 26.0, Armonk, NY, USA). Categorical variables were described in numbers and percentages. A normality test was done for all continuous variables. Continuous, non-normally distributed variables were reported as the median and interquartile range (IQR).

Comparisons between dependent and non-normally distributed continuous variables were conducted using the Kruskal-Wallis test. In addition, comparisons between categories variables were performed using the Chi-square test. P-values less than 0.05 were considered statistically significant.

**Ethical consideration**

Ethical considerations were taken into account throughout the study. The study has been approved by Research Advisory Council (RAC) at King Faisal Specialist Hospital in Riyadh. Verbal consent was obtained from all participants, and they were assured of the confidentiality and anonymity of their responses.

**Results**

The study included 201 patients who attended the ED throughout the study period and had the willingness to participate. Table 1 presents the demographic characteristics of the patients. The median (IQR) age was 40 (28) years. The majority of the patients were females (59.8%), Saudi nationals (92%), and married (54.7%). The most common educational level was a university degree or higher (47.3%).

Age (years)	Median (IQR)	40 (28)	
Parameters	Category	Total Count (n = 201)	Percentage
Gender	Male	82	40.8
	Female	119	59.8
Nationality	Saudi	185	92.0
	Non-Saudi	16	8
Marital status	Married	110	54.7
	Single	74	36.8
	Divorced	9	4.5
	Widowed	8	4
Employment status	Employed	63	31.1
	Unemployed	88	43.8
	Student	21	10.4
	Retired	29	14.4
Educational level	University degree or higher	95	47.3
	Secondary school	68	33.8
	Primary school	22	10.9
	Illiterate	16	8

**Table 1:** Demographic characteristics of the patients in the emergency department.

According to Table 2, the most common pain location among patients was abdominal pain (20.8%), and the most common pain type was acute pain (55.7%). A total of 126 patients (62.7%) received analgesics for pain control, and non-opioid analgesics were the most commonly prescribed (35.1%). The median (IQR) pain severity before receiving the analgesic was 7 (4) and decreased to 4 (4) after receiving the analgesic.

Parameters	Category	Total Count (n = 201)	Percentage
The location of the pain	Abdominal pain	42	20.8
	Chest pain	30	14.9
	Limb and hand pain	20	9.9
	Low back pain	18	8.9
	Unspecified pain	17	8.4
	Joint pain	14	6.9
	Head pain	14	6.9
	Neck pain	12	5.9
Pain type	Others	34	16.9
	Acute	112	55.7
If the analgesic was prescribed in the ED for pain control	Chronic	89	44.3
	Yes	126	62.7
Analgesic type (n = 188)	No	75	37.3
	Opioid	47	25
	Non-opioid	66	35.1
Parameters	Not prescribed	75	39.9
	Median (IQR)		
The severity of pain before receiving the analgesic		7 (4)	
The severity of pain after receiving the analgesic		4 (4)	

**Table 2:** Pain management in the emergency department.

Most patients reported high satisfaction levels with pain management in the ED. The highest percentage of patients strongly agreed (46.3%) that the ED staff adequately assessed their pain, and a similar rate (44.3%) strongly agreed that they were satisfied

with the communication with the ED physicians. The majority of patients also reported high levels of satisfaction (strongly agreed) with the treatment they received for pain (33.8%) and with the overall quality of care received in the ED (38.3% strongly agreed).

However, a small percentage of patients disagreed or strongly disagreed that they received analgesics promptly (23.6%) and

disagreed or strongly disagreed that the ED staff adequately responded to their pain (17.5%). Additionally, a small % of patients (15.4%) disagreed or strongly disagreed with communication with ED nurses. Moreover, some patients (12.4%) were neutral about the overall quality of care they received in the ED. All the details are presented in Table 3.

Question	Response	Total Count (n = 201)	Percentage
Do you think the ED staff adequately assessed your pain?	Strongly disagree	3	1.5
	Disagree	17	8.5
	Neutral	23	11.4
	Agree	65	32.3
	Strongly agree	93	46.3
Did you receive the analgesic in a timely manner? (n = 161)	Strongly disagree	15	9.3
	Disagree	23	14.3
	Neutral	22	13.7
	Agree	50	31.1
	Strongly agree	51	31.7
Do you think the ED staff adequately responded to your pain?	Strongly disagree	7	3.5
	Disagree	23	11.4
	Neutral	31	15.4
	Agree	71	35.3
	Strongly agree	69	34.3
Were you satisfied with the communication with the ED nurses?	Strongly disagree	9	4.5
	Disagree	22	10.9
	Neutral	25	12.4
	Agree	67	33.3
	Strongly agree	78	33.3
Were you satisfied with the communication with the ED physicians?	Strongly disagree	11	5.5
	Disagree	20	10
	Neutral	20	10
	Agree	61	30.3
	Strongly agree	89	44.3
The doctor told me all I wanted to know about my illness	Strongly disagree	9	4.5
	Disagree	15	7.5
	Neutral	30	14.9
	Agree	64	31.8
	Strongly agree	83	41.3

The doctor seemed to take my pain seriously	Strongly disagree	12	6
	Disagree	12	6
	Neutral	29	14.4
	Agree	63	31.3
	Strongly agree	85	42.3
Are you satisfied with the treatment you received for your pain?	Strongly disagree	10	5
	Disagree	21	10.4
	Neutral	38	18.9
	Agree	64	31.8
	Strongly agree	68	33.8
Were you satisfied with the quality of care you received in the ED?	Strongly disagree	12	6
	Disagree	25	12.4
	Neutral	25	12.4
	Agree	62	30.8
	Strongly agree	77	38.3

**Table 3:** Patients’ satisfaction with pain management in the emergency department.

\* ED: Emergency department.

Table 4 shows no significant association between patients’ status, employment, and educational level) and their satisfaction demographic characteristics (age, gender, nationality, marital with care quality regarding pain management in the ED.

Factors Agree		Overall, if the patient was satisfied with the quality of care you received in the ED			P-value
		Neutral	Disagree		
Age	40 years or less	70 (68)	14 (13.6)	19 (18.4)	0.771
	More than 40 years old	69 (71.1)	10 (10.3)	18 (18.6)	
Gender	Female	81 (68.1)	18 (15.1)	20 (16.8)	0.341
	Male	58 (70.7)	7 (8.5)	17 (20.7)	
Nationality	Saudi	129 (69.7)	24 (13)	32 (17.3)	0.332
	Non-Saudi	10 (62.5)	1 (6.3)	5 (31.3)	
Marital status	Married	77 (70)	12 (10.9)	21 (19.1)	0.762
	Unmarried	62 (68.1)	13 (14.3)	16 (17.6)	
Employment status	Employed	46 (73)	7 (11.1)	10 (15.9)	0.723
	Non-employed	93 (67.4)	18 (13)	27 (19.6)	
Educational level	University degree or higher	69 (72.6)	9 (9.5)	17 (17.9)	0.446
	Lower educational level	70 (66)	16 (15.1)	20 (18.9)	

**Table 4:** Correlation between patients’ characteristics and satisfaction with care quality.

\* ED: Emergency department.

In addition, it was found that there was no significant correlation between the type of pain (acute or chronic), whether an analgesic was prescribed or not, and the type of analgesic prescribed (opioid or non-opioid) with patients' satisfaction with care quality in the ED. However, there was a significant correlation between the severity of pain before and after receiving the analgesic and patients' satisfaction with care quality (p-value= 0.18 and 0.001,

respectively). The patients who were satisfied with the care quality received in the ED had a lower median (IQR) (7 (4) score of pain before receiving analgesics than those who disagreed with the service 8 (9). On the other hand, patients who were satisfied with the care quality received in the ED had a lower median (IQR) 3 (3) score of pain after receiving analgesics than those who disagreed with the service 5 (5).

Factors Agree		Overall, if the patient was satisfied with the quality of care you received in the ED			P-value
		Neutral	Disagree		
Pain type	Acute	80 (71.4)	17 (15.2)	15 (13.4)	0.075
	Chronic	59 (66.3)	8 (9)	22 (24.7)	
If the analgesic was prescribed in the ED for pain control	Yes	89 (70.6)	12 (9.5)	25 (19.8)	0.248
	No	50 (66.7)	13 (17.3)	12 (16)	
Analgesic type (n = 188)	Opioid	34 (72.3)	1 (2.1)	12 (25.5)	0.105
	Non-opioid	47 (71.2)	9 (13.6)	10 (15.2)	
	Not prescribed	50 (66.7)	13 (17.3)	12 (16)	
The severity of pain before receiving the analgesic	Median (IQR)	7 (4)	6 (5)	8 (9)	0.018
The severity of pain after receiving the analgesic	Median (IQR)	3 (3)	4 (3)	5 (5)	0.001

**Table 5:** Correlation between pain management and patients' satisfaction with care quality.

\* ED: Emergency department.

The results indicate a significant correlation between patients' satisfaction with pain management practices and their overall quality of care in the ED. For instance, patients who agreed that the ED staff adequately assessed their pain, received the analgesic in a timely manner, adequately responded to their pain, had satisfactory communication with ED nurses and physicians, received adequate information about their illness, had their pain taken seriously,

and were satisfied with the treatment they received for pain were significantly more likely to report high levels of satisfaction with their overall quality of care in the ED (P < 0.001 for all factors).

On the other hand, patients who disagreed or were neutral about these pain management practices were significantly more likely to report low satisfaction with their overall quality of care in the ED (P < 0.001 for all factors).

Factors Agree		Overall, if the patient was satisfied with the quality of care you received in the ED			P-value
		Neutral	Disagree		
Do you think the ED staff adequately assessed your pain?	Agree	125 (79.1)	15 (9.5)	18 (11.4)	<0.001
	Neutral	12 (52.2)	6 (26.1)	5 (21.7)	
	Disagree	2 (10)	4 (20)	14 (70)	
Did you receive the analgesic in a timely manner?	Agree	80 (79.2)	11 (10.9)	10 (9.9)	<0.001
	Neutral	16 (72.7)	3 (13.6)	3 (13.6)	
	Disagree	17 (44.7)	5 (13.2)	16 (42.1)	

Do you think the ED staff adequately responded to your pain?	Agree	116 (82.9)	11 (7.9)	13 (9.3)	<0.001
	Neutral	15 (48.4)	9 (29)	7 (22.6)	
	Disagree	8 (26.7)	5 (16.7)	17 (56.7)	
Were you satisfied with the communication with the ED nurses?	Agree	121 (83.4)	10 (6.9)	14 (9.7)	<0.001
	Neutral	10 (40)	10 (40)	5 (20)	
	Disagree	8 (25.8)	5 (16.1)	18 (58.1)	
Were you satisfied with the communication with the ED physicians?	Agree	123 (82)	12 (8)	15 (10)	<0.001
	Neutral	8 (40)	9 (45)	3 (15)	
	Disagree	8 (25.8)	4 (12.9)	19 (61.3)	
The doctor told me all I wanted to know about my illness	Agree	116 (78.9)	11 (7.5)	20 (13.6)	<0.001
	Neutral	13 (43.3)	11 (36.7)	6 (20)	
	Disagree	10 (41.7)	3 (12.5)	11 (45.8)	
The doctor seemed to take my pain seriously	Agree	124 (83.8)	9 (6.1)	15 (10.1)	<0.001
	Neutral	11 (37.9)	10 (34.5)	8 (27.6)	
	Disagree	4 (16.7)	6 (25)	14 (58.3)	
Are you satisfied with the treatment you received for your pain?	Agree	115 (87.1)	6 (4.5)	11 (8.3)	<0.001
	Neutral	21 (55.3)	12 (31.6)	5 (13.2)	
	Disagree	3 (9.7)	7 (22.6)	21 (67.7)	

**Table 6:** Correlation between patients' satisfaction with pain management and their satisfaction with care quality.

\* ED: Emergency department.

## Discussion

Patient satisfaction is a critical goal in any healthcare system. For instance, healthcare service quality is often evaluated based on patients' satisfaction with the care [10]. Thus, the present study aimed to assess the patient's satisfaction in the ED regarding pain management at King Faisal Specialist Hospital and Research Centre in Riyadh.

In our study, the most common reason for visiting the ED was acute pain (55.7%) and abdominal pain (20.8%). In a previous study, the main reasons for visiting the ED were shortness of breath (17.8%), followed by sprain/fracture (11.9%), and abdominal pain during pregnancy (10.0%) [11].

It was indicated that administering opioids for acute ED pain is uncommon in Saudi Arabia [12]. In the present study, 62.7% of patients received analgesics for pain control, and non-opioid analgesics were the most prescribed (35.1%). Similar findings were reported by Todd, *et al.* [13], who found that only 60% of

patients received analgesics in the ED. Another study in Saudi Arabia reported that 85% of the patients received non-opioids, while only 14% received an opioid analgesic [11].

Regarding the quality of care received in the ED, 69.1% of the patients in our study were satisfied with it. Furthermore, Campbell, *et al.* defined quality care evaluation as determining whether the care received is effective and whether patients can easily access the healthcare structures and processes needed [14]. On the other side, there remains a significant minority (18.4%) who had of patients had a negative opinion about the care quality. These findings encourage healthcare providers to identify the reasons causing dissatisfaction among patients.

Pain is the most common reason for seeking health care, accounting for approximately 78% of ED visits [13]. Effective pain management is crucial for patient satisfaction and outcomes. Uncontrolled pain can result in prolonged hospital stays, delayed recovery, and increased healthcare costs [15]. The study's results



suggest that most patients were satisfied with the pain management they received in the ED. On the other hand, the study's results indicated a significant correlation between the severity of pain before and after receiving analgesics and patients' satisfaction with care quality in the ED. Specifically, patients who reported higher satisfaction with care quality in the ED had lower pain levels before and after receiving analgesics.

Previous research has emphasized the significance of practitioners' responsiveness and communication with patient's pain complaints [11]. In the present study, 69.6% of the patients agreed that the ED staff adequately responded to their pain. In addition, most of them reported being satisfied with communication with ED physicians and nurses. A prior study reported that half of the patients replied positively about nursing care. Moreover, only one-third of the patients agreed with the care provided by the doctors [16].

Regarding the demographic characteristics of our patients, there was no significant association between patients' demographic characteristics and their satisfaction with care quality regarding pain management in the ED. A study by Jao., *et al.* [17] Reported inconsistent findings; patient age and ethnicity were associated with satisfaction level. Moreover, another study indicated that very satisfied people were older patients [18].

Interestingly, some variables considered essential a priori, such as chronic pain conditions and if the analgesic was prescribed in the ED for pain control, were not significantly associated with satisfaction. Like our results, a previous American study suggested that previous analgesic consumption and chronic pain disorders were not significantly associated with satisfaction levels [19].

Emergency care is often the initial port of call for patients needing acute care, and satisfaction level with emergency care can measure its quality. Modifiable factors contributing to patients' satisfaction with the care quality include physician-patient communication, minimizing waiting times, setting appropriate expectations, and providing continuity of care [20].

The current study showed a significant correlation between patients' satisfaction with pain management practices and their overall quality of care in the ED. Patients who agreed that the ED staff adequately assessed their pain, received the analgesic

promptly, adequately responded to their pain, had satisfactory communication with the ED nurses and physicians, received adequate information about their illness, had their pain taken seriously, and were satisfied with the treatment they received for pain were significantly more likely to report high levels of satisfaction with their overall quality of care in the ED ( $P < 0.001$  for all factors). On the other hand, patients who disagreed or were neutral about these pain management practices were significantly more likely to report low satisfaction levels with their overall quality of care in the ED ( $P < 0.001$  for all factors). This finding is consistent with prior research showing that patient satisfaction with healthcare services can vary widely and is influenced by various factors, including patient expectations, communication between patients and healthcare providers, and the quality of medical care [21]. These results highlight the importance of effective pain management practices in the ED, as they are significantly associated with overall patient satisfaction with care quality. Healthcare providers should address any issues with pain management practices and implement interventions to improve patient satisfaction and outcomes.

## Conclusion

The results of this study suggest that most patients reported high levels of satisfaction with pain management practices in the ED. Conversely, a small percentage reported a negative opinion about the quality of care in the ED. Effective pain management is correlated with improved patient satisfaction among ED patients with painful disorders. Most patients reported adequate pain assessment, satisfactory communication with healthcare providers, and satisfaction with their pain treatment. Healthcare providers may consider implementing targeted interventions focusing on pain management and the overall patient experience to improve patient satisfaction with care quality in the ED. These interventions may include using standardized pain assessment tools, protocols for the timely administration of analgesics, training healthcare providers on effective communication with patients, and patient education about pain management and the overall care experience.

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