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Acute Pain Management in the Emergency Department of Essos Hospital Centre: A Leading-Edge Care Model in a High-Reference Hospital in Central Africa

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Abstract

Background: Acute pain is a subjective experience that is frequently underappreciated in emergency services, particularly in sub-Saharan Africa, where resources and treatment protocols may be limited. This study seeks to examine current practices in the assessment and management of acute pain, identify existing gaps, and offer recommendations to enhance patient care. **Methods:** This was a prospective observational study conducted in the emergency department of Essos Hospital from 1 January to 31 March 2024. All adult patients (aged 18 and over) presenting with acute pain, regardless of the underlying cause, were included. Exclusion criteria consisted of patients unable to provide informed consent, those with cognitive impairments, or those with a history of opioid dependence. Data were collected via a questionnaire and a review of medical records. The variables studied included: the type of pain (traumatic or non-traumatic), the onset and location of pain, pain assessment at admission using the Simple Verbal Scale (SVS), the analgesic administered, the SVS score one hour later, and the duration of analgesic prescription. The primary outcome measure was an SVS score of ≤1, one hour after the administration of analgesics. **Results:** A total of 138 patients were included from 279 admissions. The mean age was 39.3 years (standard deviation: 18.8), with a

male-to-female ratio of 1.3. Traumatic pain was present in 52.2% of cases. At the time of admission, 7.3% of patients reported severe pain (SVS = 3), while 92.7% reported very severe pain (SVS = 4). The average time to the administration of the first analgesic was 32.8 ± 15.9 minutes. In 89.1% of cases (n = 123), the onset of pain occurred within the preceding 24 hours. The mean SVS score was 2.6 one hour after the first analgesic was administered. The most commonly administered analgesic was tramadol (43.9%), followed by paracetamol (30.4%). **Conclusion:** Severe pain affects nearly half of the patients presenting to the emergency department at Essos Hospital. Effectively managing this pain remains a significant challenge. Enhancing the management of acute pain continues to be a major concern for emergency services across sub-Saharan Africa.

Keywords

Acute Pain, Pain Management, Emergency Department, Sub-Saharan Africa

1. Introduction

Acute pain is one of the most prevalent reasons for seeking care in emergency departments, presenting a significant challenge for healthcare professionals worldwide [1]. **It is not only a complex physiological and psychological experience for patients, but also a pressing issue in the context of resource-limited settings.** In sub-Saharan Africa, this challenge is exacerbated by a combination of limited healthcare infrastructure, inconsistent training in pain management, and systemic barriers to accessing essential treatments [2]. **In these environments, healthcare professionals often face difficulties in effectively assessing and managing acute pain due to inadequate resources, lack of access to appropriate medications, and limited support for pain management protocols.** Despite growing recognition of the importance of pain control, many patients continue to endure substantial suffering during their visits to emergency services.

Acute pain can arise from a wide range of conditions, including trauma, infections, and medical procedures, requiring a tailored approach to treatment [3]. **Effective pain management hinges on accurate pain assessment, which remains a significant challenge in many emergency settings.** While pain assessment tools, such as visual or numerical scales, are widely recommended, they are often underused or improperly implemented, particularly in regions with limited healthcare infrastructure or language barriers. Moreover, variations in healthcare professionals' training and experiences further complicate the management of acute pain, resulting in suboptimal care for some patients. This study aims to examine the prevalence and severity of acute pain among patients presenting to the emergency department at Essos Hospital Centre, a high-reference hospital in Central Africa. Additionally, it seeks to evaluate current pain management practices, identify the specific challenges faced by healthcare professionals in this context, and assess the

clinical outcomes associated with these practices. **By highlighting these issues, we hope to contribute to the broader conversation on improving acute pain management in resource-constrained settings, providing valuable insights that can inform future clinical practices and healthcare policies.**

2. Materials and Methods

2.1. Study Design and Setting

This was a prospective observational study initiated by the Department of Anaesthesia and Intensive Care at the Central African Catholic University, conducted over six months in the emergency department of Essos Hospital (Yaoundé). The primary objective was to assess and describe the management of acute pain in the emergency setting.

2.2. Inclusion Criteria

Inclusion criteria encompassed all adult patients (18 years and older) presenting with acute pain upon arrival at the emergency department and who provided informed consent. **Exclusion criteria consisted of patients unable to provide informed consent, those with cognitive impairments, or those with a history of opioid dependence.** Convenience sampling was employed for participant selection.

2.3. Sample Size

Sample size calculation [4] was based on the following formula:

$$n = z^2 \times p\,(1 - p)/m^2$$

where:

- n = sample size,
- z = Confidence Level (1.96 for a 95% confidence level),
- p = Prevalence of Pain in Emergency Departments (ranging between 50% and 90% based on several African studies) [3] [4],
- m = margin of error (5%).

The minimum required sample size was calculated as follows:

$$n = (1.96*1.96)*0.5(1 - 0.5)/(0.05*0.05) = 384$$

2.4. Data Collection

Data collection was conducted in several stages to ensure a thorough assessment of acute pain management practices:

- **Demographic and Clinical Information:** A structured questionnaire was used to collect demographic details, including age, sex, medical history, and clinical data such as the reason for consultation and initial pain assessment.
- **Pain Assessment:** Pain intensity was measured using the Simple Verbal Scale (SVS) from 0 to 4 at admission and again 30 minutes' post-intervention.
- **Pain Management Documentation:** All analgesic interventions were recorded, including both non-opioid and opioid analgesics, as well as any non-pharma-

cological treatments.

- **Clinical Outcome Measurements:** Pain levels were monitored before and after intervention.
- **Ethical Considerations:** The study protocol was approved by the ethics committee of the Central African Catholic University. Informed consent was obtained from all participants, ensuring the confidentiality of data through anonymisation.

The Simple Verbal Scale (SVS) was employed (Table 1) to assess pain intensity, allowing patients to describe their pain using words as follows:

Table 1. Simple Verbal Scale (SVS).

Pain Intensity	Score
No Pain	0
Mild Pain	1
Moderate Pain	2
Severe Pain	3
Extreme Pain	4

Patients were invited to select the word that best described their pain level, enabling healthcare professionals to better understand the intensity of the pain and adjust treatment accordingly.

2.5. Data Analysis

Data were analysed using SPSS statistical software (version 25.0). Descriptive statistics (means, medians, percentages) summarised demographic and clinical characteristics. Comparisons of pain levels before and after management were made using paired t-test based on data distribution. A significance level of 5% was set, with $p \leq 0.05$. The primary outcome measure was an SVS score of ≤1 one hour following the initial administration of analgesics.

3. Results

A total of 138 patients were included from 279 admissions to the emergency department of Essos Hospital during the recruitment period, yielding a prevalence of acute pain of 49.4%. Table 2 **provides a comprehensive overview of the demographic and clinical characteristics of the study population, comprising 138 patients from the emergency department of Essos Hospital.** The mean age of the participants was 39.3 years (SD 18.8), with a slightly higher proportion of male patients (56.5%) compared to females (43.5%). This gender distribution is consistent with trends seen in other acute pain studies across different regions.

The aetiology of acute pain in this cohort was predominantly traumatic, accounting for 57.2% of cases, which aligns with the high incidence of trauma-related injuries in emergency departments. Among non-traumatic causes, ab-

dominal-pelvic pain was the most common (28.26%), followed by craniofacial pain (8.08%), reflecting the range of conditions encountered in emergency care. The distribution of pain onset further illustrates the acute nature of the majority of cases, with 89.1% of patients presenting within 24 hours of pain onset, reinforcing the emergency context in which these patients sought care.

The average time to the administration of the first analgesic was 32.8 ± 15.9 minutes, a crucial metric highlighting potential delays in pain management. Despite this, a significant portion of patients experienced severe pain at admission, with 92.7% reporting very severe pain (SVS = 4) and 7.3% reporting severe pain (SVS = 3), reflecting the urgent need for effective pain control upon presentation.

Table 2. Characteristics of the study population.

Variable Studied			Number (n)	Percentage (%)	Mean (Standard Deviation)
Gender		Male	78	56.5	-
		Female	60	43.5	-
Age			-	-	39.3 (18.8)
Aetiology of Pain		Traumatic	79	57.2	-
	Non-Traumatic	Abdominal	39	28.26	-
		Craniofacial	11	8.08	
		Thorax	3	2.17	
		Spinal Column	5	3.62	
		Other	1	0.72	
Onset of Pain		<24 hours	123	89.1	-
		1 - 7 hours	14	10.2	-
		>7 hours	1	0.7	-
Time to First Analgesic			-	-	32.8 (15.9)
SVS at Admission		3	10	7.3	3.3 (0.69)
		4	128	92.7	
SVS One Hour After Administration of Analgesic		1	60	43.5	2.6 (1.4)
		2	10	7.2	
		3	8	5.8	
		4	60	43.5	

The use of the Simple Verbal Scale (SVS) at admission and one hour after the administration of analgesics offers valuable insights into the clinical effectiveness of the pain management protocols. The mean SVS score 1 hour post-analgesic administration was 2.6 (SD 1.4), indicating that while some relief was achieved, a substantial number of patients still reported moderate to severe pain.

This suggests a potential gap in the adequacy of acute pain management practices, particularly considering the high prevalence of traumatic and abdominal-pelvic pain, which may require more intensive analgesic strategies.

To explore factors associated with pain levels and treatment responses, a *regression analysis* was performed. The results indicated that *patients with traumatic pain* ($\beta = 0.45$, $p < 0.01$) were more likely to report higher levels of pain at admission compared to those with non-traumatic pain. Additionally, the *time to first analgesic administration* was significantly associated with pain severity at one hour post-administration ($\beta = 0.35$, $p < 0.05$), suggesting that delays in analgesic administration contribute to sustained pain levels. The regression model accounted for 18% of the variance in pain scores one hour after analgesic administration, highlighting the importance of prompt pain management.

Table 3 outlines the methods employed for pain assessment in the study population. A significant proportion of patients (70%) did not undergo any formal pain assessment. This highlights a concerning gap in pain management practices, as systematic pain evaluation is critical to ensuring effective and timely analgesia in the emergency setting.

Among those who did receive pain assessment, the Simple Verbal Scale (SVS) was the most commonly used tool, applied in 21.72% of cases. The SVS is a simple and accessible method that allows patients to communicate the intensity of their pain using verbal descriptors, making it particularly useful in busy emergency departments. However, the limited usage of this scale (only 21.72%) suggests that pain assessment protocols may not be consistently implemented.

Other assessment tools, such as the Visual Analog Scale (VAS) and the Numeric Rating Scale (NRS), were used less frequently, with VAS applied in 6.52% and NRS in just 1.45% of cases. These tools, though more precise in some cases, may require more time or patient literacy to use effectively, which could explain their lower adoption.

Table 3. Systematic pain assessment by healthcare staff at admission.

	Pain Assessment	Number (n)	Percentage (%)
	No	97	70
Yes	Simple Verbal Scale (SVS)	30	21,72
	Visual Analog Scale (VAS)	9	6,52
	Numeric Rating Scale (NRS)	2	1,45
	Total	138	100

In this study, 89.1% of patients (n = 123) presented with pain that had been ongoing for less than 24 hours. The mean time between the initial clinical pain assessment and the administration of analgesics was 32.8 ± 15.9 minutes (Figure 1). Despite prompt assessment, a significant proportion of patients reported high

levels of pain. At admission, 7.3% of patients described their pain as severe (SVS = 3), while a majority of 92.7% reported very severe pain (SVS = 4), highlighting the urgent need for effective pain management in the emergency department. These findings underscore the challenge of addressing acute pain in a timely manner, particularly in resource-limited settings. While pain management protocols are in place, the duration of pain before intervention and the severity of pain experienced by patients suggest that there may be delays in the delivery of optimal analgesia. This necessitates further investigation into the factors contributing to these delays and the development of strategies to ensure more efficient pain relief.

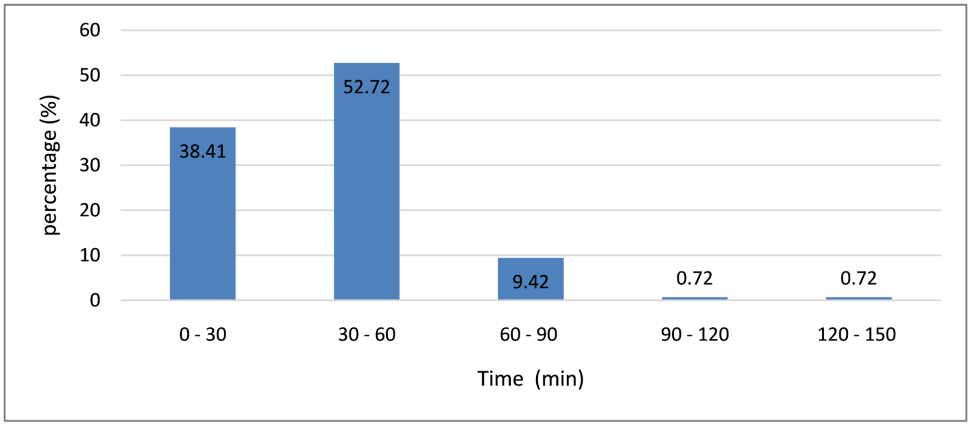

Figure 1. Time from the initial clinical pain assessment to the administration of management.

In more than half of the cases (57.2%, n = 79/138), pain was of traumatic origin. Analgesic interventions were administered to all patients (Table 4). The primary pharmacological intervention for pain relief was tramadol, used in 65.94% of cases, followed by paracetamol (45.65%) and diclofenac (16.67%). The initial pain assessment upon patient admission to the emergency department revealed that 92.7% (n = 128) of patients experienced very severe pain, while 7.3% (n = 10) reported severe pain. Significant changes in pain levels were observed following the administration of analgesics. The mean Simple Verbal Scale (SVS) score decreased from 3.3 ± 0.69 at admission to 2.6 ± 1.4 one hour after the first analgesic administration.

Table 4. Use of analgesic medications.

Level of Analgesia	Medications Administered	Number (n)	Percentage (%)
WHO Step 1	Paracetamol	63	45.65
	Diclofenac	23	16.67
	Metamizole	8	5.79
WHO Step 2	Tramadol	91	65.94
	Nefopam	22	15.94
WHO Step 1	Morphine	-	-
	Total	207	149.99

4. Discussion

The results of our study on the management of acute pain in the emergency department of Essos Hospital reveal trends that align with those observed in other research, while also highlighting specific aspects unique to this context. A total of 138 patients were included from 279 admissions, yielding a prevalence of acute pain of 49.4%. This figure is consistent with other studies conducted in emergency settings, where acute pain is often reported as one of the main reasons for consultation. For instance, a study in South Africa found that acute pain affects approximately 50% of patients admitted to emergency departments [4] [5].

The demographic distribution of our cohort shows a slight male predominance (56.5%), which is consistent with data from other studies, indicating a small predominance of male patients in emergency services [3] [6]. The average age of 39.3 years is relatively young, which may reflect a population of patients who are more active and prone to traumatic injuries. Indeed, traumatic pain accounted for 57.2% of cases in our study, which is typical in emergency departments where trauma-related injuries, such as road accidents and physical injuries, are a leading cause of acute pain [7]. Among non-traumatic causes, abdominal-pelvic pain was the most common (28.26%), followed by craniofacial pain (8.08%), a pattern that mirrors the range of conditions encountered in emergency care. Chanana L *et al.* (2015) observed similar trends in their study in India [8].

Regarding pain onset, 89.1% of patients presented within 24 hours of the pain's onset, reinforcing the acute nature of the pain experienced by the majority of patients. This highlights the importance of rapid and effective management, as untreated acute pain can progress to chronic pain, leading to long-term complications [9]. The average time to the administration of the first analgesic was 32.8 ± 15.9 minutes, which is an important parameter. Although this is below some optimal standards (*i.e.*, less than 30 minutes for immediate pain treatment), it remains relatively high given the clinical urgency of the situation. Similar studies, such as those by Abdolrazaghnejad *et al.* (2018), reported comparable delays in analgesic administration, often due to organisational constraints and high workloads in emergency departments [10]. These delays suggest that improvements are needed to enhance the efficiency of pain management in emergency settings.

In terms of pain intensity, 92.7% of patients reported very severe pain (SVS = 4) at admission, underscoring the need for accurate pain assessment and immediate management. Ku *et al.* [11] noted that high levels of pain at presentation are common, yet pain management remains inadequate in many cases. One hour after the administration of the first analgesic, the average Simple Verbal Scale (SVS) score dropped to 2.6 (SD 1.4), indicating that while partial pain relief was achieved, a significant number of patients still experienced moderate to severe pain. This suggests that acute pain management protocols may not be entirely effective, particularly in cases involving traumatic and abdominal-pelvic pain, which might require more intensive analgesic approaches.

While some progress has been made in the management of acute pain in this

setting, there remain notable gaps. Improving response times, enhancing healthcare professionals' training in managing complex pain, and optimising analgesic protocols are essential steps to improve patient care in emergency departments, particularly in resource-limited environments.

A significant proportion of patients (70%) did not undergo any formal pain assessment, which indicates a concerning gap in the implementation of systematic pain evaluation protocols. Pain assessment is crucial in ensuring timely and effective analgesia, particularly in acute care settings where patients often present with severe or very severe pain. The high percentage of unassessed patients contrasts with recommendations in the literature, which emphasise that formal pain evaluation is fundamental for guiding pain management strategies, ensuring adequate analgesia, and preventing unnecessary suffering. Previous studies have similarly reported inconsistent pain assessment practices, with some highlighting that up to 50% of patients in emergency settings do not undergo systematic pain evaluations [10] [12] [13].

Among those who did receive pain assessment, the Simple Verbal Scale (SVS) was the most commonly used tool, applied in 21.72% of cases. The SVS is recognised in the literature as a quick, easily understood method, particularly useful in high-volume emergency department settings where time and resources are limited [14] [15]. However, the relatively low usage of the SVS in our study suggests a deviation from ideal practice. Similar studies in emergency settings have reported higher usage of the SVS, ranging from 30% to 40%, which points to the necessity for better implementation of pain assessment protocols [8] [16]. This discrepancy may be attributable to local practice variations or staff training, underscoring the need for standardised protocols and regular staff education on pain assessment tools.

Other pain assessment methods, such as the Visual Analog Scale (VAS) and the Numeric Rating Scale (NRS), were employed much less frequently, with VAS used in 6.52% and NRS in just 1.45% of cases. While these tools provide more detailed and quantifiable pain ratings, they are less commonly used in emergency department due to their requirements for patient literacy and time. Literature suggests that while VAS and NRS offer superior accuracy in pain measurement, they are often impractical in fast-paced environments like EDs [17]. Our findings corroborate this observation, as the lower adoption of these scales in our study could reflect both the time constraints and the perceived complexity of their administration. The limited use of these more precise tools may, however, affect the quality of pain management decisions and highlight the need for a more balanced approach, integrating both simple and more detailed tools depending on patient circumstances.

Regarding pain onset, 89.1% of patients presented with pain that had been ongoing for less than 24 hours. This finding is consistent with other studies that show a predominance of acute pain in emergency department populations, with a high proportion of patients seeking care for pain of recent onset [18] [19]. The rela-

tively short duration between the onset of pain and patient presentation to the emergency department suggests that our cohort was largely composed of individuals who had not yet undergone significant pain management interventions, increasing the urgency for effective analgesia on arrival.

The mean time from initial clinical pain assessment to the administration of analgesics was 32.8 ± 15.9 minutes. Although this is relatively prompt compared to other studies, where delays of up to 60 minutes have been reported in some EDs [20], it still highlights a delay in analgesic administration, particularly for patients with very severe pain, as noted in our findings. Despite the timeliness of the initial assessment, a significant proportion of patients (92.7%) reported very severe pain upon admission. Several factors contributed to the observed delays in pain management. Emergency departments often face high patient volumes, and triage systems prioritise life-threatening conditions, meaning severe trauma, respiratory failure, or shock may take precedence over non-life-threatening cases, leading to delays in analgesic administration. Additionally, our study identified that high patient-to-caregiver ratios and the overwhelming workload of healthcare professionals are significant contributors to these delays, with caregivers frequently having to manage multiple tasks simultaneously, further delaying pain management. Furthermore, in some instances, the absence of standardised pain management protocols exacerbates the issue, as the lack of structured guidelines in clinical decision-making (particularly when pain is subjective and hard to quantify) can result in missed or delayed pain relief interventions. These findings highlight the need for organisational changes, such as improving triage efficiency, ensuring the availability of dedicated pain management staff, and implementing standardised pain management protocols to streamline workflows and reduce delays.

In terms of analgesic interventions, tramadol was the most commonly used analgesic (65.94%), followed by paracetamol (45.65%) and diclofenac (16.67%). The preference for tramadol is consistent with its use as a commonly prescribed opioid in ED settings due to its moderate analgesic properties and relative safety profile when used appropriately [21] [22]. However, the relatively high use of non-opioid analgesics, such as paracetamol, indicates a trend towards multi-modal pain management in our cohort, which aligns with current clinical guidelines that advocate for the use of both opioid and non-opioid medications in the management of acute pain [23]. Several factors have influenced the selection of analgesics in emergency settings. Firstly, the severity and type of pain play a crucial role, with tramadol being the most commonly used analgesic (65.94%) due to its moderate opioid properties and favourable safety profile when used appropriately. This choice reflects the need for effective pain relief while minimising the risk of side effects and abuse in resource-limited environments. Additionally, the use of paracetamol (45.65%) and diclofenac (16.67%) indicates a multimodal approach to pain management, which aligns with current clinical guidelines recommending the combined use of both opioid and non-opioid analgesics for acute pain. Furthermore, availability and cost are significant considerations, as tramadol, paracetamol, and

diclofenac are widely accessible in many low-resource settings due to their affordability and common availability in emergency departments. In contrast, limited access to more potent opioids or specialised analgesics, such as ketamine or regional anaesthesia, due to cost, availability, or local regulation, has influenced prescribing practices. Additionally, clinical knowledge and training contribute to variations in analgesic choice. While tramadol is often recommended for moderate pain, its use requires careful monitoring for side effects, particularly in resource-limited settings. The relatively high use of non-opioid analgesics such as paracetamol suggests a preference for more conservative approaches, likely driven by concerns over opioid side effects or a lack of familiarity with advanced analgesic protocols. In conclusion, while the use of tramadol and non-opioid analgesics reflects the current trend towards multimodal analgesia, there is a clear need for clearer guidelines and better training on the safe and effective combination of analgesics in emergency settings.

Pain scores improved significantly after analgesic administration, with the mean SVS score decreasing from 3.3 ± 0.69 at admission to 2.6 ± 1.4 one-hour post-intervention. This reflects the effectiveness of the analgesics administered, as pain relief is a key indicator of the efficacy of pain management protocols. Previous studies have shown similar reductions in pain scores following initial analgesic treatment in EDs, further reinforcing the importance of early pain intervention [24] [25]. However, while the improvement in pain scores is encouraging, it also underscores the fact that significant numbers of patients still experience high levels of pain at the time of admission, reinforcing the need for timely and adequate pain relief.

5. Limitations of Study

Our study has several limitations that should be considered. Firstly, as a single-center study, the findings may not be generalizable to other hospitals in the region, as variability in hospital infrastructure, staff training, and resource availability could influence pain management practices. Additionally, the lack of follow-up data on long-term outcomes, such as patient satisfaction, pain resolution, or the development of chronic pain, limits our understanding of the lasting effectiveness of analgesic practices. Furthermore, the reliance on the Visual Analog Scale (VAS) as the primary tool for pain assessment may have introduced bias, as it is possible that the severity of pain was underestimated due to the infrequent use of more precise measures like the Numerical Rating Scale (NRS) or other advanced pain assessment tools. These limitations highlight areas for future research, including multi-centre studies and the incorporation of more robust follow-up and pain assessment methods.

6. Actionable Recommendations

- **Implement standardised pain protocols:** To reduce delays in analgesic administration, we recommend the development of clear, standardised pain manage-

ment protocols, which should include timeframes for analgesic administration and defined criteria for pain assessment.

- **Enhance staff training:** Comprehensive pain management training programmes should be established for emergency department staff. These programmes should emphasise the importance of rapid pain relief, accurate pain assessment, and the appropriate use of medications.
- **Invest in pain assessment tools:** Hospitals should ensure that appropriate pain assessment tools, such as the Visual Analog Scale (VAS), Numerical Rating Scale (NRS), and the Simple Visual Scale (SVS), are available and systematically used. Staff training should focus on the practical application of these tools in emergency settings, balancing time constraints with the need for accurate assessments.
- **Improve medication availability:** To enhance pain relief options, hospitals should collaborate with local health authorities and suppliers to ensure a reliable supply of both opioid and non-opioid analgesics. The availability of more potent analgesics should be carefully managed to minimise risks while maximising patient comfort.

7. Conclusion

Acute pain presents a substantial public health challenge, particularly in emergency departments, and remains a critical issue at the Essos Hospital, where its prevalence is notably high. In sub-Saharan Africa, the assessment and management of pain in emergency care require focused attention to enhance the quality of care. This study represents an important step toward identifying current gaps and proposing strategies to improve pain management, ultimately aiming to ensure optimal patient comfort and better clinical outcomes. Key strategies include training and educating healthcare professionals, establishing standardized pain assessment and management protocols, and enhancing access to necessary medications. These initiatives have the potential to transform clinical practices and enhance the patient's experience in emergency care settings.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Rech, M.A., Griggs, C., Lovett, S. and Motov, S. (2022) Acute Pain Management in the Emergency Department: Use of Multimodal and Non-Opioid Analgesic Treatment Strategies. *The American Journal of Emergency Medicine*, **58**, 57-65. https://doi.org/10.1016/j.ajem.2022.05.022

[2] Dyer, J., *et al.* (2017). Pain Management Education and Training in Africa: A Systematic Review. *BMC Medical Education*, **17**, Article No. 169.

[3] Smith, J., Brown, A. and Jones, L. (2023) The Prevalence and Causes of Acute Pain in Emergency Departments: A Systematic Review. *Emergency Medicine Journal*, **40**, 102-108.

[4] Motov, S.M. and Nelson, L.S. (2016) Advanced Concepts and Controversies in Emergency Department Pain Management. *Anesthesiology Clinics*, **34**, 271-285. https://doi.org/10.1016/j.anclin.2016.01.006

[5] Lourens, A., Parker, R. and Hodkinson, P. (2020) Prehospital Acute Traumatic Pain Assessment and Management Practices in the Western Cape, South Africa: A Retrospective Review. *International Journal of Emergency Medicine*, **13**, Article No. 21. https://doi.org/10.1186/s12245-020-00278-w

[6] Ayanore, M.A., Dey, D.K., *et al.* (2018) Pain Management in the Emergency Department: A Systematic Review of the Literature. *BMC Emergency Medicine*, **18**, Article No. 5.

[7] Zanza, C., Romenskaya, T., Zuliani, M., Piccolella, F., Bottinelli, M., Caputo, G., *et al.* (2023) Acute Traumatic Pain in the Emergency Department. *Diseases*, **11**, Article 45. https://doi.org/10.3390/diseases11010045

[8] Jegaraj, M.K., Chanana, L., Kalyaniwala, K., Yadav, B. and Abilash, K. (2015) Clinical Profile of Non-Traumatic Acute Abdominal Pain Presenting to an Adult Emergency Department. *Journal of Family Medicine and Primary Care*, **4**, 422-425. https://doi.org/10.4103/2249-4863.161344

[9] Motov, S.M., Vlasica, K., Middlebrook, I. and LaPietra, A. (2021) Pain Management in the Emergency Department: A Clinical Review. *Clinical and Experimental Emergency Medicine*, **8**, 268-278. https://doi.org/10.15441/ceem.21.161

[10] Abdolrazaghnejad, A., Banaie, M., Tavakoli, N., Safdari, M. and Rajabpour-Sanati, A. (2018) Pain Management in the Emergency Department: A Review Article on Options and Methods. *Advanced Journal of Emergency Medicine*, **2**, e45.

[11] Ku, N., Cheng, M., Liew, C.Q., Chen, Y.C., Sung, C., Ko, C., *et al.* (2023) Prospective Study of Pain and Patient Outcomes in the Emergency Department: A Tale of Two Pain Assessment Methods. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, **31**, Article No. 56. https://doi.org/10.1186/s13049-023-01130-9

[12] Kefyalew, M., Deyassa, N., Gidey, U., Temesgen, M. and Mehari, M. (2024) Improving the Time to Pain Relief in the Emergency Department through Triage Nurse-Initiated Analgesia—A Quasi-Experimental Study from Ethiopia. *African Journal of Emergency Medicine*, **14**, 161-166. https://doi.org/10.1016/j.afjem.2024.06.004

[13] Hämäläinen, J., Kvist, T. and Kankkunen, P. (2022) Acute Pain Assessment Inadequacy in the Emergency Department: Patients' Perspective. *Journal of Patient Experience*, **9**. https://doi.org/10.1177/23743735211049677

[14] Schweizer, L., Sieber, R., Nickel, C.H. and Minotti, B. (2022) Ability of Pain Scoring Scales to Differentiate between Patients Desiring Analgesia and Those Who Do Not in the Emergency Department. *The American Journal of Emergency Medicine*, **57**, 107-113. https://doi.org/10.1016/j.ajem.2022.04.046

[15] Hjermstad, M.J., Fayers, P.M., Haugen, D.F., Caraceni, A., Hanks, G.W., Loge, J.H., *et al.* (2011) Studies Comparing Numerical Rating Scales, Verbal Rating Scales, and Visual Analogue Scales for Assessment of Pain Intensity in Adults: A Systematic Literature Review. *Journal of Pain and Symptom Management*, **41**, 1073-1093. https://doi.org/10.1016/j.jpainsymman.2010.08.016

[16] Helbig, L., Möckel, M., Fischer-Rosinsky, A. and Slagman, A. (2023) Non-Traumatic Abdominal Pain. *Deutsches Ärzteblatt international*, **120**, 613-614. https://doi.org/10.3238/arztebl.m2023.0163

[17] Giusti, G.D., Reitano, B. and Gili, A. (2018) Pain Assessment in the Emergency Department. Correlation between Pain Rated by the Patient and by the Nurse. An Observational Study. *Acta Biomedica*, **89**, 64-70.

https://doi.org/10.23750/abm.v89i4-S.7055

[18] Melzack, R., Wall, P.D. and Ty, T.C. (1982) Acute Pain in an Emergency Clinic: Latency of Onset and Descriptor Patterns Related to Different Injuries. *Pain*, **14**, 33-43. https://doi.org/10.1016/0304-3959(82)90078-1

[19] Etoundi, P.O., Mbengono, J.A.M., Ntock, F.N., Tochie, J.N., Ndom, D.C.A., Angong, F.T.E., *et al.* (2019) Knowledge, Attitudes, and Practices of Cameroonian Physicians with Regards to Acute Pain Management in the Emergency Department: A Multicenter Cross-Sectional Study. *BMC Emergency Medicine*, **19**, Article No. 45. https://doi.org/10.1186/s12873-019-0260-3

[20] Cyrus, A., Moghimi, M., Jokar, A., Rafeie, M., Moradi, A., Ghasemi, P., *et al.* (2014) Model Determination of Delayed Causes of Analgesics Prescription in the Emergency Ward in Arak, Iran. *The Korean Journal of Pain*, **27**, 152-161. https://doi.org/10.3344/kjp.2014.27.2.152

[21] Elder, N.M., Heavey, S.F. and Tyler, K.R. (2023) Emergency Department Pain Management in the Older Adult. *Clinics in Geriatric Medicine*, **39**, 619-634. https://doi.org/10.1016/j.cger.2023.05.012

[22] Tyler, K.R., Hullick, C., Newton, B.A., Adams, C.B. and Arendts, G. (2020) Emergency Department Pain Management in Older Patients. *Emergency Medicine Australasia*, **32**, 840-846. https://doi.org/10.1111/1742-6723.13562

[23] Carron, M., Tamburini, E., Linassi, F., Pettenuzzo, T., Boscolo, A. and Navalesi, P. (2024) Efficacy of Nonopioid Analgesics and Adjuvants in Multimodal Analgesia for Reducing Postoperative Opioid Consumption and Complications in Obesity: A Systematic Review and Network Meta-analysis. *British Journal of Anaesthesia*, **133**, 1234-1249. https://doi.org/10.1016/j.bja.2024.08.009

[24] Griffioen, M.A., Ziegler, M.L., O'Toole, R.V., Dorsey, S.G. and Renn, C.L. (2019) Change in Pain Score after Administration of Analgesics for Lower Extremity Fracture Pain during Hospitalization. *Pain Management Nursing*, **20**, 158-163. https://doi.org/10.1016/j.pmn.2018.09.008

[25] Bateman, R.M., Sharpe, M.D., Jagger, J.E., Ellis, C.G., Solé-Violán, J., López-Rodríguez, M., *et al.* (2016) 36th International Symposium on Intensive Care and Emergency Medicine. *Critical Care*, **20**, Article No. 94. https://doi.org/10.1186/s13054-016-1208-6