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Tapentadol Use for Pain Management in St Luke's General Hospital Emergency Department

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Abstract

Background: Pain is one of the most prevalent presenting complaints to the emergency department (ED). Effective pain management remains an important responsibility of emergency physicians; however, significant variation in prescribing practices is seen and pain is often poorly managed. Tapentadol (Palexia®) is a centrally acting μ-opioid receptor agonist and noradrenaline reuptake inhibitor commonly used in the ED setting.

Methods: A retrospective chart review was conducted over a two-month period (01/09/2025 – 31/10/2025) at St Luke's General Hospital Emergency Department, Kilkenny, Ireland. The ED restricted drug record was used to identify qualifying charts. Thirty of the most recent charts were reviewed.

Results: A total of 30 charts were reviewed (N=30). Only 6.7% of patients were correctly treated according to the WHO analgesic ladder. In 63% of patients the ladder was not followed at all. Only 23% of patients had an initial pain score documented, and only 14% had a repeat pain score after analgesia.

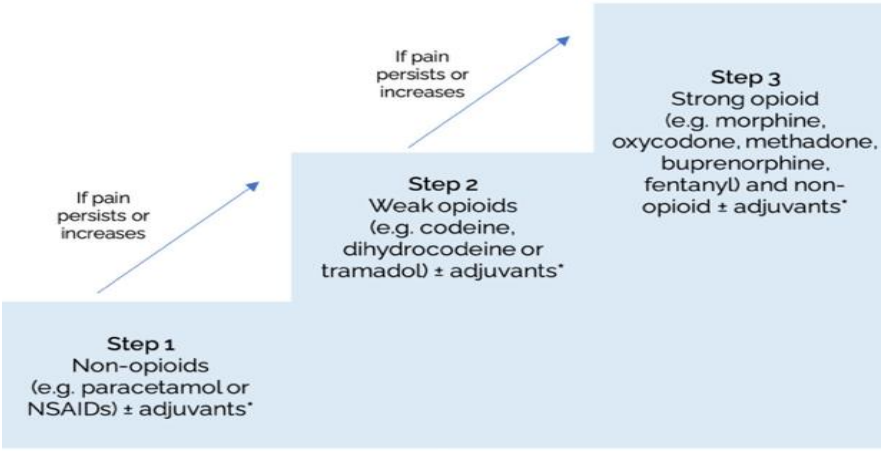
Conclusions: This audit highlights that pain management in the ED is poor, with 93% of patients not treated according to the WHO analgesic ladder. Improvements in clinician education, pain score documentation, and re-evaluation practices are recommended, with a repeat audit after three months.

Keywords: tapentadol, pain management, emergency department, WHO analgesic ladder, opioids, audit

1. INTRODUCTION

Pain is one of the most prevalent complaints presented to the emergency department (ED) (1). Effective pain management remains an important responsibility of emergency physicians; however, significant variation in prescribing practices is seen and pain is often poorly managed (2,3). The appropriate selection and escalation of analgesic therapy require a systematic approach, guided by evidence-based frameworks. The World Health Organization (WHO) analgesic ladder remains one of the most widely recognised pain management guidelines internationally (4).

Figure 1: WHO analgesic ladder



The WHO analgesic ladder provides a stepwise approach to pain management depending on severity (5). The three-step framework recommends the initial use of non- opioid analgesics such as paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs) for mild pain and escalating to weak opioids for mild to moderate pain. For moderate to severe pain, strong opioids in combination with non-opioid adjuvants are recommended (5,6). The WHO analgesic ladder has been broadly adopted in the management of patients with acute and chronic pain (6). The use of multimodal analgesia in pain management facilitates synergistic analgesic effects and significantly reduces opioid requirements (7). This paradigm shift highlights the growing awareness of potential opioid-related harms and current guidelines favor opioid-sparing treatment as first-line pain management (8). Tapentadol (Palexia ®) is commonly used to treat pain in the ED setting. It is a centrally acting μ opioid receptor agonist and noradrenaline reuptake inhibitor (9). The immediate-release formulation of tapentadol is indicated for the short-term management of acute pain poorly responsive to first-line treatment (10).

Tapentadol provides analgesic efficacy comparable to oxycodone and morphine hydrochloride and has superior gastrointestinal tolerability, with reduced rates of nausea, vomiting and constipation (11-13). Adverse effects of tapentadol use include central nervous system (CNS) effects such as dizziness, somnolence, confusion and hallucinations, affecting up to 10% of patients (14). Furthermore, age-related differences in adverse effect profiles were seen with elderly patients (® 65 years) experiencing higher rates of confusion and nausea than younger patients. This reflects age-related CNS sensitivity and alters pharmacokinetics in this population (14). The favorable safety and tolerability characteristics of tapentadol, in addition to its limited risk of drug interactions (due to minimal metabolism via cytochrome P450), make it a suitable drug choice as part of multimodal analgesia in the ED when used appropriately (9,15).

2.AIM

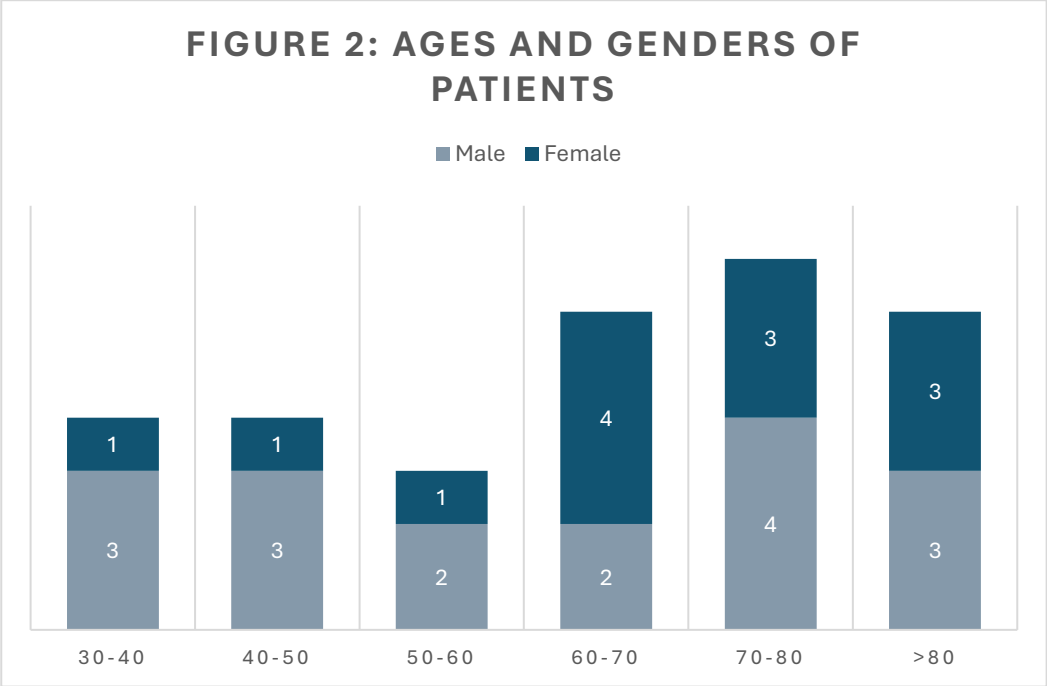
To assess the appropriateness of tapentadol use in our ED population, with specific focus on alignment with WHO analgesic ladder principles.

3. METHOD

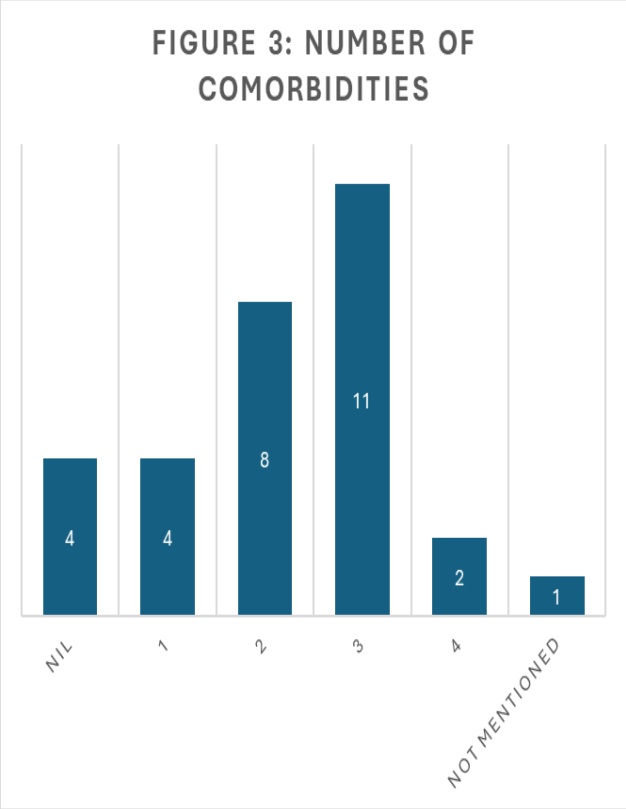
A retrospective chart review was conducted over a two-month period from 01/09/2025 – 31/10/2025. The ED restricted drug record was used to identify qualifying charts. Thirty of the most recent charts were reviewed.

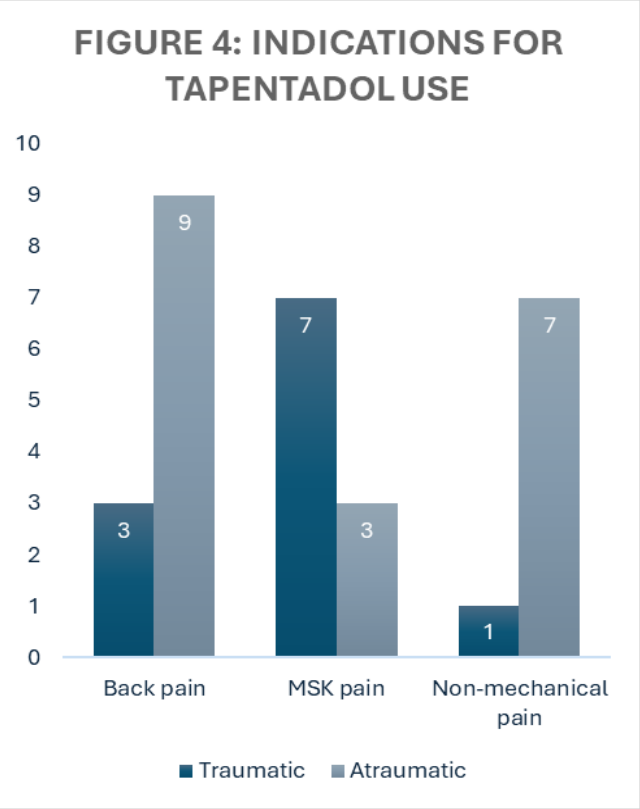
4.RESULTS

A total of 30 charts were reviewed (N=30). Thirteen females and 17 males were prescribed tapentadol. The majority (77%) of tapentadol prescriptions within the female population were in patients above 60 years of age, while in the male population a more uniform distribution of tapentadol prescriptions across age groups was seen (Figure 2).



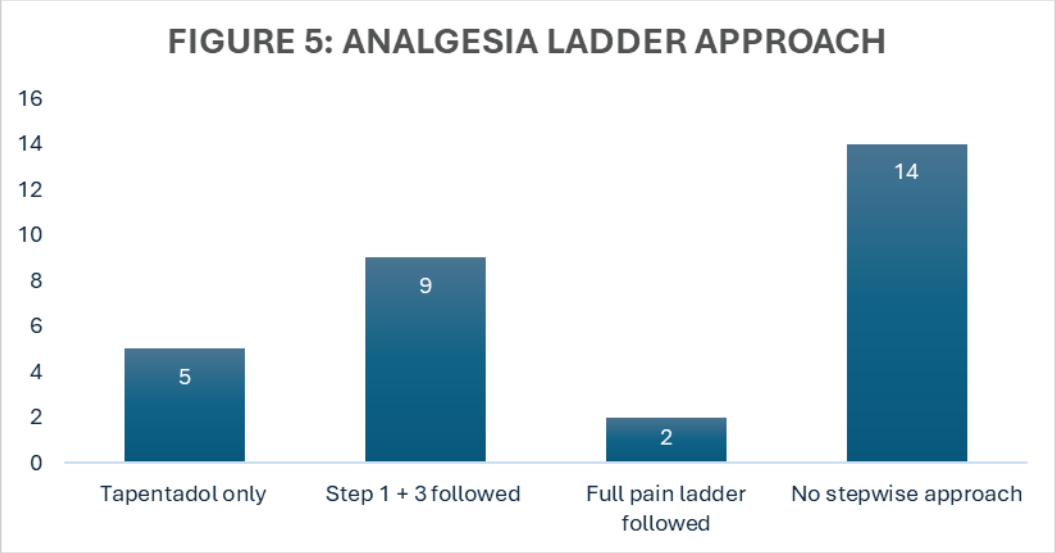
Sixty-three percent of patients prescribed tapentadol had two to three comorbidities, while only 27% of patients had one comorbidity or less (Figure 3). Of these comorbidities, 37% of patients were known with chronic back pain (arthritis, spinal stenosis, intervertebral disc prolapses), while 10% of patients had other chronic musculoskeletal pain, and a further 10% had chronic, non-mechanical pain due to fibromyalgia (one patient) and cancer (two patients) (Figure 4).





Tapentadol prescriptions were analysed by nature of pain. Thirty seven percent of prescriptions were for traumatic pain, whilst 63% of prescriptions were for non-traumatic pain. Back pain was the most common presenting complaint, accounting for 40% of tapentadol prescriptions, followed by other musculoskeletal pain (33%) and non-mechanical pain (27%). Most patients presenting with back pain were atraumatic (75%), with traumatic pain accounting for 25% of prescriptions. Most patients presenting with musculoskeletal pain were trauma related (70%), with the remaining cases being atraumatic (30%). Regarding non-mechanical pain, 88% of prescriptions were for patients without trauma, while only 22% were trauma related. In addition, 23% of patients had an initial pain score documented, with only 14% of these having a repeat pain score documented after receiving analgesia.

Of the total number of patients who received tapentadol, only 6.7% were correctly treated according to the WHO analgesic ladder. In 30% of patients a limited stepwise approach was followed with simple analgesia initiated first (paracetamol and NSAIDs), followed by the administration of strong opioids. Step 2 of the ladder was excluded in these patients. In the remaining 63% of patients the ladder was not followed at all, with tapentadol being the only drug administered in 17% of patients (Figure 5).



5.DISCUSSION

It is evident from the data that the WHO analgesic ladder was not followed in most pain cases in the ED. This may be due to several factors including poor clinician knowledge of the WHO analgesic ladder, which contributes to skipping steps. In addition, co-existing comorbidities such as asthma, renal impairment, concurrent anticoagulant use and respiratory depression risk may preclude the use of NSAIDs or other step 1 or 2 agents. Furthermore, chronic pain patients already on simple home analgesics may be escalated to higher steps on the ladder, as reassessing baseline therapy may delay care. In addition, patients presenting with acute pain may already have taken simple analgesics at home before presenting to the ED which limits administration of these agents. Operational barriers, such as time constraints and staff shortages in a busy ED, hinder stepwise analgesic titration as waiting for step 1 or 2 responses before escalating risks prolonged pain and patient dissatisfaction. Furthermore, route of administration may influence drug choice by favouring parenteral administration of opioids over slower oral non-opioids, particularly in cases of severe pain where prompt analgesia is required.

Back pain was the commonest presenting complaint for which tapentadol was prescribed, with most of the patients having poorly managed chronic back pain. The goal of back pain management in the ED is to rule out acute, emergency conditions such as cauda equina syndrome, infection, fractures and malignancy and to provide acute pain relief as required. ED physicians should be aware that the therapeutic target of acute back pain management should not be to ensure that the patient is completely pain free, but rather to decrease the pain to a tolerable level.

The investigators are aware that this audit is biased toward patients treated with tapentadol. The audit does not reflect those patients with less severe pain who were treated appropriately according to the analgesic ladder with other analgesics.

CONCLUSION

This audit highlights that pain management in the ED setting is poor, with 93% of patients not being treated according to the WHO analgesic ladder. Furthermore, the initial assessment and re-evaluation of pain scores post treatment is not adequately conducted, with less than 25% of patients having an initial score and fewer being re-evaluated. While there are several factors contributing to poor pain management, clinician knowledge of the WHO analgesic ladder is a factor which may be addressed

and improved upon. This may be achieved through a teaching session and the placement of reference posters in common clinical areas. In addition, improvements in pain score documentation and re-evaluation may be actioned through frequent reminders of the ED team in the daily meeting. A dedicated pain score sheet may also be added to the patient chart to remind clinicians to assess pain severity. Once these measures have been put in place, a repeat audit after three months is indicated.

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