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KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING ANALGESIC DRUG USE IN OUTPATIENTS IN TRA VINH UNIVERSITY, VINH LONG PROVINCE: A CROSS SECTIONAL STUDY

Tao Gia Phu*, Tran Thi Tuyet Nga

School of Medicine and Pharmacy, Tra Vinh University School of Medicine and Pharmacy - 126 Nguyen Thien Thanh, Hoa Thuan Ward, Vinh Long Province, Vietnam

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ABSTRACT

Background: Chronic musculoskeletal disorders are common causes of long-term pain and impaired quality of life. Analgesic drugs are frequently used in outpatient settings, and safe use requires adequate knowledge, attitudes, and practices.

Objective: To describe the knowledge, attitudes, and practices regarding analgesic drug use among outpatients with chronic musculoskeletal pain.

Methods: A cross-sectional study was conducted among 355 outpatients at Tra Vinh University Hospital, Vinh Long Province, Vietnam, in 2024. Data were collected via face-to-face interviews using a structured knowledge, attitudes, and practices questionnaire. Descriptive statistical analysis was performed to analyze the data.

Results: The majority of participants were female. Moderate and severe pain accounted for 51.5% and 31.9%, respectively. Good knowledge, positive attitudes and good practices were observed in 34.1%, 88.0% and 56.3% of participants. Knowledge was higher for dosing and administration, whereas safety related knowledge regarding hepatic, renal and cardiovascular adverse effects was limited. Most participants obtained analgesics from healthcare facilities, though some reported self purchasing and discontinuing medications once symptoms improved.

Conclusion: Participants exhibited positive attitudes and acceptable practices toward analgesic drug use; however, safety related knowledge was insufficient. Enhancing patient counseling and health education may improve safe and rational analgesic use in outpatient settings.

Keywords: Analgesics; Outpatients; Knowledge, Attitudes, Practice; Musculoskeletal Pain.

1. INTRODUCTION

Chronic musculoskeletal pain is one of the leading causes of persistent pain and impaired mobility in older adults, and it may substantially reduce quality of life while increasing the burden on healthcare systems [1]. Epidemiological data suggest that chronic pain affects a large proportion of the adult population, with moderate to severe pain commonly reported and often leading to prolonged use of analgesic drugs for symptom control [2]. Analgesics, including non opioid agents such as paracetamol and non steroidal anti inflammatory drugs (NSAIDs), as well as mild opioids, are widely used for the management of musculoskeletal pain [3]. These medications are available both by prescription and over the counter and are frequently used in community settings [4]. However, inappropriate use may result in harmful adverse effects such as hepatic toxicity associated with paracetamol, gastrointestinal complications related to NSAIDs, and the potential risk of dependence with inappropriate opioid use [4]. Assessing knowledge, attitudes and practices (KAP) related to analgesic drug use is therefore relevant for understanding patient behavior and supporting safer medication use in chronic pain populations [5]. Previous studies have reported that although attitudes toward analgesic medications tend to be positive, many individuals lack sufficient knowledge regarding dosing, administration and safety risks, which may lead to self treatment or even overdose [5]. Both domestic research such as the study by L. N. Xuan [6] and international studies such as that by Sinuraya R. K. on KAP related to over the counter analgesic use in Indonesia [7] reported that KAP concerning NSAIDs and other analgesics were uneven within the community. These gaps are particularly evident among outpatients with chronic musculoskeletal pain, who frequently use different analgesics over prolonged periods and may adjust doses or combine medications without guidance from healthcare professionals. Such behaviors may contribute to adverse events, medication overuse and increased healthcare burden [6, 7].

In Tra Vinh, studies on analgesic drug use in chronic musculoskeletal conditions remain limited, especially those focusing on KAP among outpatients. Therefore, this study aimed to describe the KAP related to analgesic drug use among outpatients with musculoskeletal pain at Tra Vinh University Hospital (Tra Vinh University), Vinh Long Province, in 2024. The findings are expected to provide useful information for counseling and health education initiatives to promote safer and more rational analgesic use in this patient population.

2. METHODS

2.1. Study subjects

*Corresponding author
Email: tgphu@tvu.edu.vn **Phone:** (+84) xxx **Https:**//doi.org/10.52163/yhc.v67iE1.5115

The study population consisted of outpatients who were diagnosed with chronic musculoskeletal conditions and received care at the Outpatient Clinic of Tra Vinh University Hospital in 2024.

2.2. Study design

This cross sectional study was conducted among outpatients at the Tra Vinh University Hospital Outpatient Clinic in Vinh Long Province.

2.3. Sample size

$$n = Z^2_{1-\alpha/2} \frac{p(1-p)}{d^2}$$

The sample size was estimated based on the formula for a proportion with a known prevalence. The expected proportion was set using the percentage of correct knowledge regarding the use of oral non steroidal anti inflammatory drugs reported by Anbeer Arain at 68.5%, p = 0.685 [8]. The minimum calculated sample size was 332 participants.

2.4. Sampling method

A convenient sampling approach was applied to patients who attended the clinic during the study period and met the eligibility criteria.

2.5. Variables and data collection methods

Data were collected through face to face interviews using a structured questionnaire adapted from the study by Ni Made Maharianingsih in 2022 [9]. The instrument included three main components: knowledge regarding analgesic drugs, attitudes toward analgesic use and practices related to analgesic use. Demographic characteristics, clinical information and analgesic related data were also recorded. Pain intensity was categorized according to the Visual Analogue Scale (VAS) ranging from 0 to 10.

2.6. Statistical analysis approach

Collected data were carefully entered using Epidata version 3.1 and subsequently cleaned and analyzed using SPSS software version 20.0. Descriptive statistics were applied. Frequencies and percentages (%) were used to present qualitative variables such as age, gender, pain severity, pain duration, and the KAP regarding analgesic drug use.

2.7. Ethical considerations

The study protocol was approved by the Ethics Committee in Bio Medical Research, Tra Vinh University (approval number 3349/QĐ-ĐHTV). All procedures were conducted in accordance with the ethical standards of the institutional and national research committees and with the Declaration of Helsinki and its later amendments

3. RESULTS

3.1 Participant characteristics

Table 1. Participant characteristics of outpatients with chronic musculoskeletal pain (n = 355)

Variable	Category	n	%
Sex	Male	119	33.5
	Female	236	66.5
Age	< 60 years	198	55.8
	≥ 60 years	157	44.2
Pain intensity (Visual Analogue Scale)	No pain: 0	0	0.0
	Mild pain: 1 to 3	59	16.6
	Moderate pain: 4 to 6	183	51.5
	Severe pain: 7 to 9	113	31.9
	Very severe pain: 10	0	0.0
Duration of illness	< 6 months	173	48.7
	≥ 6 months	182	51.3

A total of 355 outpatients with chronic musculoskeletal pain were included in the study. The majority of participants were aged under 60 years (55.8%), and females accounted for a higher proportion than males (66.5% - 33.5 %). Regarding pain intensity, moderate pain was the most common (51.5%), followed by severe pain (31.9%). Mild pain accounted for 16.6%. No participants reported no pain or very severe pain on the VAS scale.

3.2. Knowledge regarding the use of analgesic drugs among outpatients

Table 2. Distribution of knowledge responses regarding the use of analgesic drugs among outpatients (n = 355)

Item	Correct (n/%)	Incorrect (n/%)	Do not know (n/%)
Analgesics relieve pain but do not treat the underlying disease	115 (32.4%)	113 (31.8%)	127 (35.8%)
Paracetamol is highly safe and seldom causes allergies	133 (37.5%)	104 (29.3%)	118 (33.2%)
Analgesics should be taken after meals	271 (76.3%)	56 (15.8%)	28 (7.9%)
Analgesics can be used concurrently with gastric ulcer medication without reducing treatment effectiveness	122 (34.4%)	146 (41.1%)	146 (41.1%)
Increasing dose/ frequency to relieve pain is inappropriate	321 (90.4%)	24 (6.8%)	10 (2.8%)
Analgesics may be stopped when pain improves	201 (56.6%)	142 (40.0%)	12 (3.4%)
Analgesics increase risk of gastric ulcer	178 (50.1%)	6 (1.7%)	171 (48.2%)
Analgesics increase risk of hepatic injury	56 (15.8%)	2 (6%)	297 (83.6%)
Analgesics increase risk of renal impairment	25 (7.0%)	1 (0.3%)	329 (92.7%)
Analgesics increase cardiovascular risk	6 (1.7%)	2 (0.6%)	347 (97.7%)
Analgesics increase risk of depression	1 (0.3%)	2 (0.6%)	352 (99.1%)

Item	Correct (n/%)	Incorrect (n/%)	Do not know (n/%)
Analgesics do not require refrigeration	354 (99.7%)	0 (0%)	1 (0.3%)
Analgesics may be tored in sealed containers	354 (99.7%)	0 (0%)	1 (0.3%)

Participants demonstrated better understanding in dose and administration related items (correct dosage, timing of use,..), whereas knowledge regarding adverse effects and drug safety was limited.

3.3. Attitudes toward the use of analgesic drugs among outpatients

Table 3. Distribution of attitude responses toward the use of analgesic drugs among outpatients (n = 355)

Item	Strongly disagree n (%)	Disagree n (%)	Agree n (%)	Strongly agree n (%)
Appropriate use ensures safety	2 (0.6%)	57 (16.1%)	159 (44.8%)	137 (38.5%)
Appropriate use ensures treatment effectiveness	2 (0.6%)	64 (18.0%)	171 (48.2%)	118 (33.2%)
Appropriate use promotes faster recovery	7 (2.0%)	74 (20.8%)	173 (48.7%)	101 (28.5%)
Inappropriate use leads to adverse effects	5 (1.4%)	78 (22.0%)	168 (47.3%)	104 (29.3%)
Appropriate use reduces treatment costs	8 (2.3%)	32 (9.0%)	156 (43.9%)	159 (44.8%)
Pain relief is noticeable soon after intake	20 (5.6%)	69 (19.4%)	171 (48.2%)	95 (26.8%)
Drowsiness or cognitive slowing after intake	189 (53.2%)	107 (30.1%)	48 (13.5%)	11 (3.2%)
Fatigue or lethargy after intake	190 (53.5%)	104 (29.3%)	46 (13.0%)	15 (4.2%)
Only take analgesics when experiencing pain	36 (10.1%)	105 (29.6%)	72 (20.3%)	142 (40.0%)
Recommend analgesics to others with similar pain	106 (29.9%)	154 (43.4%)	59 (16.6%)	36 (10.1%)

The majority of participants exhibited positive attitudes toward the use of analgesic drugs. Agreement was highest for statements regarding treatment effectiveness (81.4%), safety of appropriate use (83.3%), and cost reduction (88.7%). Participants also reported that analgesics provided noticeable symptom relief (75.0%).

3.4. Practices related to the use of analgesic drugs among outpatients

Table 4. Distribution of practice responses related to the use of analgesic drugs among outpatients (n = 355)

Item	Strongly disagree n (%)	Disagree n (%)	Agree n (%)	Strongly agree n (%)
Freely purchase analgesics without prescription	151 (42.5%)	81 (22.8%)	51 (14.4%)	72 (20.3%)
Store medications in visible places	13 (3.7%)	2 (0.6%)	138 (38.9%)	202 (56.8%)
Follow instructions on medication labels	253 (71.3%)	74 (20.8%)	11 (3.1%)	17 (4.8%)
Adjust intake according to pain severity	43 (12.1%)	164 (46.2%)	81 (22.8%)	67 (18.9%)
Discontinue medication when symptoms improve	21 (5.9%)	91 (25.6%)	148 (41.7%)	95 (26.8%)
Discontinue medication when symptoms worsen	26 (7.3%)	64 (18.0%)	219 (61.7%)	46 (13.0%)
Frequently forget to take medications	105 (29.6%)	143 (40.3%)	97 (27.3%)	10 (2.8%)

Medication access primarily occurred through healthcare facilities (65.3%), though 34.7% still purchased analgesics outside clinical settings or self prescribed. Participants commonly discontinued medication once symptoms improved (68.5% agreed), and a notable proportion admitted to forgetting doses (30.1% agreed or strongly agreed).

3.5. Overall knowledge, attitude, and practice classification

Overall, 34.1% of participants demonstrated good knowledge, 88.0% had positive attitudes, and 56.3% demonstrated good practice (Table 5).

Table 5. Overall classification of knowledge, attitude, and practice regarding the use of analgesic drugs (n = 355)

Overall KAP classification	Category	n	%
Knowledge	Good knowledge	121	34.1
	Poor knowledge	234	65.9
Attitude	Positive attitude	312	88.0
	Negative attitude	43	12.0
Practice	Good practice	200	56.3
	Poor practice	155	43.7

4. DISCUSSION

In this study, female patients accounted for a higher proportion of chronic musculoskeletal cases (66.5%) compared with males (33.5%). These findings appear broadly consistent with both domestic and international literature [10], in which musculoskeletal complaints seem to occur more frequently among women. International evidence suggests that biological and hormonal factors, particularly loss of estrogen after menopause, may contribute to accelerated cartilage degeneration and bone resorption, while age related reductions in muscle mass, chondrocyte density and neuromuscular responsiveness may further impair joint function and facilitate osteoarthritic progression [10].

Pain severity in this study demonstrated a notable distribution based on the Visual Analogue Scale, with 51.5% of patients reporting moderate pain, followed by 31.9% reporting severe pain and 16.6% reporting mild pain. The predominance of moderate and severe pain suggests considerable interference with daily activities and quality of life, consistent with previous research indicating that persistent musculoskeletal pain may significantly reduce physical function and quality of life in older adults [1]. Regarding pain duration, 48.7% of participants reported symptom duration below 6 months while 51.3% reported duration longer than 6 months. This distribution may indicate a transition from early stage disease toward more established chronic conditions in the study population. Patients within the shorter duration group may benefit from early management strategies to prevent disease progression, whereas those with longer symptom duration are likely to experience greater functional limitations and more complex therapeutic needs [2].

Regarding knowledge, 34.1% of outpatients in this study demonstrated adequate knowledge about analgesic use, while 65.9% did not. This proportion was lower compared with the findings of Maharianingsih (2022) [9], who reported high, moderate and low knowledge levels at 37.3%, 33.7% and 29%, respectively. A possible explanation for this difference lies in the fact that most patients in our study lived in rural areas with limited access to mass media, whereas the Maharianingsih study was conducted in an urban setting with better informational exposure [3], prior literature has suggested that lower educational attainment may reduce patients' ability to seek, interpret and apply health information effectively [11]. Similarly, Sinuraya et al. [7] reported that limited knowledge about analgesics was associated with inappropriate use and a higher likelihood of self treatment. Knowledge about the safety profile of analgesics, particularly NSAIDs, was also limited. Only 50.1% of participants identified gastrointestinal ulcer risk, 15.8% recognized hepatic risk, 7% recognized renal risk and 1.7% recognized cardiovascular risk. Comparable international findings have been reported. Roshi (2017) observed that 51% of respondents believed NSAIDs could cause allergic reactions [12], while one third or fewer recognized specific adverse effects such as gastrointestinal bleeding, hypertension, gastritis and renal impairment. Coskuner (2020) reported higher awareness levels, with 58.6% identifying peptic ulcer risk, 47% renal impairment, 22.4% hepatic impairment and 7.4% hypertension [13]. This variability may reflect differences in patient education, exposure to healthcare systems and public health messaging on medication safety, with urban populations likely receiving more targeted educational interventions than rural patients.

Regarding attitudes toward analgesic use, 88% of outpatients in this study demonstrated positive attitudes while 12% exhibited less favorable attitudes. This was generally higher compared with the findings of Kuswinarti (2020), who reported good, moderate and poor attitudes at 59.1%, 33.6% and 7.3%, respectively [14]. Similarly, Maharianingsih (2022) reported that 47.1% of participants were categorized as having moderate attitudes, suggesting variability in how patients perceive and integrate medication use into their health beliefs [9]. These discrepancies may reflect differences in health education, medication literacy and healthcare access across regions and countries. Despite modest knowledge performance in the present study, most patients still exhibited positive attitudes toward analgesic use. This may be related to accumulated personal experiences with pain management, as well as a strong reliance on physician recommendations. It is possible that trust in the prescribing physician reinforces confidence in treatment and encourages medication adherence, a relationship that has been highlighted in previous literature [15]. Likewise, Sinuraya et al. reported generally positive attitudes toward analgesic use in community settings [7]. In our study, 81.4% of participants agreed that analgesics should be used correctly to achieve optimal therapeutic benefit, and 77.2% believed appropriate use would facilitate faster recovery. These findings suggest that positive attitudes may encourage cooperation with healthcare providers and potentially enhance treatment adherence.

Regarding practices, 56.3% of patients in this study demonstrated good analgesic use practices while 43.7% exhibited suboptimal practices. This proportion was similar to Maharianingsih (2022), who reported that 48.9% of participants demonstrated adequate practices [9], suggesting that practice behaviors among analgesic users may be influenced by attitude and individual beliefs rather than knowledge alone. With respect to medication access, 65.3% of patients in our study disagreed with purchasing analgesics without a prescription. In contrast, Coskuner (2020) reported that 63.8% of respondents always or often used analgesics without physician advice and 31.5% purchased analgesics over the counter, indicating a higher tendency toward self medication in that population [13]. Differences in healthcare access and regulatory environments may partly explain these variations. Similarly, Sinuraya et al. found that self medication with NSAIDs was common in community settings [7]. Interestingly, most patients in our study disagreed with using analgesics according to package instructions alone, whereas Coskuner (2020) observed that 40.4% of respondents reported reading medication instructions prior to use [13]. Several contextual factors may contribute to these differences, including physician centered prescribing practices, lower health literacy and cultural expectations regarding medication guidance. A considerable proportion of patients discontinued analgesics when symptoms improved (68.5%) or worsened. This behavior suggests a symptom driven approach to medication use in which patients adjust or discontinue treatment based on subjective perceptions rather than clinical recommendations. Similar patterns have been documented in patients with chronic pain, where lack of adherence may reflect attempts to control side effects, reduce perceived medication burden or manage expectations surrounding treatment[16]. Such practices may undermine treatment consistency and highlight the need for enhanced patient education and follow up to support rational analgesic use.

This study has limitations. As a cross sectional survey conducted among outpatients in a single province, the

findings may not be generalizable to other populations or healthcare settings. The use of self reported measures may also be subject to recall and social desirability bias, and the KAP instrument captures perceived rather than observed behavior.

5. CONCLUSION

Knowledge and practices on analgesic safety among outpatients in Tra Vinh was limited despite positive attitudes. Strengthened patient counseling and health education may support safer and more rational analgesic use. Broader studies are warranted to guide future interventions.

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Conflict of interest statement

The authors declare no conflicts of interest in this research.

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