

# KNOWLEDGE AND AWARENESS OF ANALGESIC USE AMONG OUTPATIENTS IN A TEACHING HOSPITAL, KELANTAN

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**Abstract.** Most of the outpatient community has access to analgesic medication, especially over-the-counter analgesic medication. Both prescribed and non-prescribed analgesic medication should be consumed correctly to prevent it from being abuse. Therefore, this study aims to determine knowledge and attitudes toward analgesic use among outpatients in a teaching hospital in Kelantan. A total of 220 participants from the outpatient community at a teaching hospital, Kelantan, were involved in this study by answering the self-administered questionnaire. This study is a cross-sectional study. The collected data was analysed through SPSS version 27.0. The level of knowledge and the level of attitude of analgesic use were identified using descriptive statistics. Unexpectedly, most of the outpatient community at the teaching hospital have a fair level of knowledge and fair level of attitude toward analgesic use, with 52.3% and 46.4%, respectively. Regardless of the findings, appropriate actions and strategies should be taken immediately to solve these issues and improve the knowledge and the attitude toward analgesic use in outpatient community settings so that the community have a better understanding and good attitude toward analgesic use and consumption in the correct ways.

**Keywords:** *knowledge, awareness, analgesic use, teaching hospital*

## Introduction

Analgesics are medications used to relieve various types of pain. Commonly referred to as painkillers or pain relievers, they are classified into three main types: non-opioid analgesic agents, opioid agents, and compound analgesics. Non-opioid analgesics are the most frequently used and include acetaminophen as well as nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, aspirin, naproxen, and etodolac. Opioid agents, on the other hand, work by altering the brain's perception of pain. They are recognized as the most effective medications for managing severe pain and include examples such as morphine, tramadol, hydrocodone, and methadone. Compound analgesics combine both non-opioid and opioid agents, with examples including co-codamol, co-codaprin, and co-dydramol (Jayawardana et al., 2021). Analgesics are available in several forms, including oral medications (tablets and liquids), topical creams or gels, rectal suppositories, and injections. Regardless of the form, their primary purpose is to alleviate pain. They are effective in treating conditions such as postsurgical pain, acute pain, and chronic pain, including arthritis and cancer-related pain. A study in Malaysia found that tramadol was the most prescribed analgesic among outpatients in public hospitals between 2010 and 2016. Among NSAIDs, ketoprofen, diclofenac, and celecoxib were the most commonly used, while morphine and oxycodone were the most frequently utilized opioids. NSAIDs remain particularly popular and are easily accessible in Malaysia (Awaluddin et al., 2017).

The short-term use of non-opioid analgesics is generally associated with minimal risk when taken as prescribed. However, misuse through excessive dosages or prolonged use increases the likelihood of adverse effects. While non-opioid analgesics have a lower

risk of addiction compared to opioid analgesics, opioids require strict medical supervision due to their high potential for dependency. In Malaysia, opioids such as heroin and morphine remain the primary substances of abuse. Additionally, the misuse of common analgesics like paracetamol (marketed under brand names such as Panadol) is also prevalent. Reports indicate that many Malaysians consume these medications casually, often treating them as if they were harmless. This behaviour is attributed to factors such as a lack of awareness and an indifferent attitude toward medication use. Analgesics can be obtained either by prescription or over the counter, depending on the type. Misuse occurs when prescription drugs are consumed without medical authorization or when over-the-counter painkillers are taken inappropriately, such as exceeding the recommended dosage or using them for manageable pain (Kawuma et al. 2021). A lack of knowledge about analgesic medications is a significant factor contributing to their misuse. For instance, a study at Tawau Hospital found that 75.0% of patients were unaware of the ingredients in the painkillers they had consumed. Additionally, 73.1% did not know about potential side effects, and 64.8% were unaware of allergic reactions. Notably, 58.5% of respondents reported not being informed about side effects by healthcare professionals (Cheah and Ting, 2018). Interestingly, a study conducted among outpatients at Hospital Selama, Perak, revealed that patients with poor knowledge of analgesics were equally likely as those with better knowledge to exhibit a positive attitude towards proper use (Paramalingam et al., 2021). Despite these findings, there is limited research on the knowledge and attitudes regarding analgesic use among outpatients in Malaysia. Therefore, this study aims to evaluate the level of knowledge and attitudes toward analgesic use among outpatients in a teaching hospital in Kelantan. The findings are expected to enhance patient awareness, improve their quality of life, and contribute to better nursing care.

## Materials and Methods

The cross-sectional study design is used to assess the level of knowledge and attitudes toward analgesic use among outpatients in a teaching hospital in Kelantan. The study setting was conducted after receiving approval from the Human Ethics Committee, USM (USM/JEPeM/KK/23120948) which is from September 2023 to June 2024. The sampling method used in this study is convenience sampling. The sample was selected among patients in the age range 18 years old to 60 years old who visited Klinik Rawatan Keluarga and the pharmacy. The instrument used in this study was a structured self-administered questionnaire which was adapted and reviewed from a previous study. The permission for the questionnaire used in this study was granted by the original author (Paramalingam et al., 2021). The instrument consists of three sections. Section A consists of demographic data, Section B consists of 10 true-or-false questions, where each correct answer earns 1 point, and incorrect answers earn 0 points to measure knowledge on analgesic medication. The total score is converted into a percentage, with a Bloom cut-off point used to classify knowledge levels: good knowledge (80-100%, 8-10 points), fair knowledge (60-79%, 6-7 points), and poor knowledge (0-59%, 1-5 points). Section C contained 6-items uses a 5-point Likert scale with responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) designed to measure attitudes toward analgesics use. The total score is converted into a percentage by dividing it by the maximum possible score and multiplying by 100. A Bloom cut-off

point is then applied to categorize attitudes: poor (<60%), fair (60-79%), and good (80-100%) (Paramalingam et al., 2021).

## Results and Discussion

### *Sociodemographic characteristics*

A total of 220 outpatients from a teaching hospital in Kelantan participated in this study. The participants were divided into four age groups: 18 to 27 years, 28 to 37 years, 38 to 47 years, and 48 to 60 years. The largest proportion of participants fell within the 18 to 27 years age group, comprising 55.5% (n=122) of the total sample. In contrast, the smallest proportion of participants was observed in the 48 to 60 years age group, representing only 10.5% (n=23). The gender distribution revealed that the majority of participants were female (74.1%, n=163), while male participants accounted for 25.9% (n=57). Regarding educational background, 79.5% (n=175) of participants had a high level of education, whereas the remaining 20.5% (n=45) reported a low level of education. *Table 1* presents a detailed summary of the sociodemographic characteristics of the participants.

**Table 1.** Sociodemographic characteristics of participants.

Variables	Frequency [N] (Percentage [%])
Gender	
Male	57 (25.9)
Female	163 (74.1)
Age (Year)	
18 to 27	122 (55.5)
28 to 37	38 (17.3)
38 to 47	37 (16.8)
48 to 60	23 (10.5)
Level of Education	
High Level of Education	175 (79.5)
Low Level of Education	45 (20.5)

### *Level of knowledge of analgesic use*

According to the results shown in *Table 2*, the majority of respondents demonstrated a good understanding of several aspects of analgesic use. For instance, nearly all respondents (97.3%) knew that frequent intake of alcohol along with high doses of analgesics could cause liver damage, and 94.5% understood that high doses of analgesics could damage the liver and kidneys. Additionally, 92.7% of respondents were aware that some analgesics can relieve fever. A significant number of respondents (95.5%) also recognized that patients could have an allergy to painkillers, while 75.0% knew that some analgesics could be taken before and after food, while others could only be taken after food. However, there were areas where respondents lacked understanding, such as 92.7% not knowing that analgesics can be taken every hour when in pain, and 89.1% unaware that not all analgesics are safe to use during pregnancy. Furthermore, 58.6% of respondents believed that analgesics could relieve all types of pain, and 55.0% knew that all analgesics can relieve inflammation. Overall, the findings suggest that while respondents exhibited good knowledge in several areas of analgesic use, there

were still gaps in understanding, particularly concerning the safety of analgesics in certain situations.

**Table 2. Knowledge of analgesic use.**

No	Knowledge of analgesic use	True [N(%)]	False [N(%)]
1	Some analgesic relieves fever.	204 (92.7)	16 (7.3)
2	Analgesic can be taken every hours.	16 (7.3)	204 (92.7)
3	High doses analgesic can cause damage to the liver and kidney.	208 (94.5)	12 (5.5)
4	All analgesic are safe to be use during pregnancy.	24 (10.9)	196 (89.1)
5	Frequent intake of alcoholic drinks along with high doses of analgesic will cause liver damage.	214 (97.3)	6 (2.7)
6	All analgesics relieve inflammation.	121 (55.0)	99 (45)
7	All analgesic can be taken before and after food whereas some can only be taken after food.	165 (75.0)	55 (24.0)
8	Patient can have an allergy towards analgesic.	210 (95.5)	10 (4.5)
9	All analgesic have side effects.	198 (90.0)	22 (10.0)
10	Analgesic relieve all types of pain.	129 (58.6)	91 (41.4)

The results from *Table 3* revealed that 52.3% of respondents had a fair level of knowledge regarding analgesic use, while 31.4% demonstrated a good level and 16.4% had a poor level of knowledge. Analgesic misuse refers to the inappropriate use of prescription drugs without a doctor's prescription, or the consumption of over-the-counter analgesic medications without adhering to the correct dosage or taking them when the pain is tolerable (Sánchez-Sánchez et al. 2021). Since the highest percentage of respondents exhibited a fair level of knowledge, it indicates that the majority of outpatients attending pharmacies and Klinik Rawatan Keluarga (KRK) possess neither a good nor poor understanding of analgesic use. This may be attributed to the lack of proper exposure to the correct use of analgesics within the public. Such exposure includes the need for greater awareness to be disseminated through primary education, starting from a young age, to help the community learn about this important issue. A similar study found that individuals who received information about the side effects of medications exhibited stronger knowledge concerning Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), a class of analgesics, compared to those who did not receive such information (Phueanpinit et al., 2016). Consequently, this lack of exposure contributes to the fair level of knowledge observed among individuals attending pharmacies and KRK. Furthermore, inadequate communication between physicians, pharmacists, and patients leads to a lack of understanding. Previous studies have shown that medical staff is a primary source of drug information for patients (Seidel et al., 2023). In the study setting, the insufficient communication between pharmacists and healthcare providers contributed to the lack of understanding regarding the proper usage of analgesic medications. Additionally, limited exposure to social media platforms that promote awareness of the correct methods for consuming analgesics is another factor that may contribute to the poor level of knowledge in the community. Research has shown that other sources, such as the internet and healthcare personnel, can also serve as valuable resources for providing information on prescription medications (Al-Worafi, 2023).

**Table 3. Level of knowledge of analgesic use.**

Level of knowledge	Frequency (Percentage)	Total score knowledge
Good	69 (31.4)	6.77 (1.316)
Fair	115 (52.3)	
Poor	36 (16.4)	

### **Level of attitude of analgesic use**

The data presented in *Table 4* regarding attitudes toward analgesic use reveal that the majority of respondents demonstrate responsible practices; however, some misconceptions remain. Concerning the statement, "I will reference information about analgesics for self-medication," 42% agreed and 38.2% strongly agreed, resulting in a total of 80.2%, indicating a proactive approach toward informed analgesic use. In addition, for the statement, "I refuse to take analgesics when the pain is still tolerable," 27% agreed and 43% strongly agreed, totaling 70%, which reflects a preference for avoiding unnecessary medication. Regarding the statement, "All analgesics can be taken before or after food," 24.6% agreed and 25.1% strongly agreed, cumulatively making up 49.7%. Meanwhile, 8.2% strongly disagreed and 13.2% disagreed, totaling 21.4%, indicating some uncertainty about this practice. With respect to the statement, "I will take multiple analgesics at the same time to relieve the pain much faster," 41.8% strongly disagreed and 29.6% disagreed, forming 71.4%, while only 7.3% agreed and 3.2% strongly agreed, suggesting an awareness of the risks associated with combining analgesics. However, for the statement, "I will consume high doses of analgesics to resolve the pain immediately," 43.6% strongly disagreed and 20.1% disagreed, accounting for 63.7%, while 11.5% agreed and 6.8% strongly agreed, totaling 18.3%. This highlights a need for further education on the risks associated with high-dose analgesic use. Lastly, for the statement, "All over-the-counter analgesics can be taken with prescribed medication," 34.5% strongly disagreed and 21.4% disagreed, resulting in a total of 55.9%, while 10.5% agreed and 15% strongly agreed, making up 25.5%. This points to a knowledge gap concerning drug interactions. These findings underscore the necessity for targeted educational interventions aimed at addressing misconceptions, particularly regarding drug interactions and the safe use of analgesics.

**Table 4.** Attitude of analgesic use.

No	Attitude of analgesic use	1 [N(%)]	2 [N(%)]	3 [N(%)]	4 [N(%)]	5 [N(%)]
1	I will take multiple analgesic at the same time to relieve the pain much faster.	92 (41.8)	65 (29.5)	28 (12.7)	28 (12.7)	7 (3.2)
2	I will consume high doses of analgesics to resolve the pain immediately.	96 (43.6)	68 (30.9)	20 (9.1)	21 (9.5)	15 (6.8)
3	All analgesics can be taken before or after food.	18 (8.2)	53 (24.1)	65 (29.5)	59 (26.8)	25(11.4)
4	I refused taking analgesics when the pain is still tolerable.	5 (2.3)	18 (8.2)	15 (6.8)	96 (43.6)	86(39.1)
5	I will reference information about analgesics for self-medication.	6 (2.7)	3 (1.4)	16 (7.3)	102(46.4)	93(42.3)
6	All over-the-counter analgesic can be taken with prescribed medication.	76 (34.5)	47 (21.4)	33 (15.0)	33 (15.0)	31(14.1)

*Note: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.*

The result represented in *Table 5* showed that 102 respondents (46.4%) showed a fair level of attitude towards analgesic use meanwhile the remaining 99 respondents (45.0%) showed a poor level of attitude and only 19 respondents (8.6%) showed a poor level of attitude. These findings indicate a prevalent misconception regarding analgesic use among outpatients. The recommendation and use of analgesics vary according to individual patients and clinical practices (Raja, 2020; Geisler, 2019). Factors influencing inappropriate use and the development of harmful analgesic use habits include the widespread availability of analgesic medications. Many older Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), such as ibuprofen and naproxen, as well as newer COX-2 inhibitors (e.g., celecoxib, etoricoxib), are readily accessible and frequently prescribed in clinical settings. Geriatric patients, in particular, have been found to

support the use of over-the-counter medications, often believing that combining these with prescribed medications enhances their effectiveness (Aljerbi et al., 2022). However, such attitudes can be corrected through targeted education about the potential risks, including drug-drug interactions, such as those between NSAIDs and Warfarin (Paramalingam et al., 2021).

**Table 5.** Level of attitude of analgesic use.

Level of knowledge	Frequency (Percentage)	Total score knowledge
Good	19 (8.6)	18.06 (3.726)
Fair	102 (46.4)	
Poor	99 (45.0)	

## Conclusion

In conclusion, this study finding shows that both the level of knowledge and the level of attitude toward analgesic use among outpatients in a teaching hospital, Kelantan are fair. In this study, the implication of knowledge and attitude towards analgesic use is significant for both healthcare professionals and patients. It affects treatment outcomes, patient safety, and the overall management of pain. Recommendations include educating both healthcare providers and the public about safe and appropriate analgesic use, fostering open communication between patients and healthcare professionals, and promoting responsible prescribing practices to mitigate the risks associated with analgesic use.

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## Conflict of interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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