

Self-medication with analgesics in rheumatology: Frequency and associated factors

Automédication avec les analgésiques en rhumatologie : Fréquence et facteurs associés

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ABSTRACT

Introduction: Analgesics are commonly used to relieve pain, but their consumption requires vigilance due to the possibility of interactions and the occurrence of adverse side effects from misuse however, they are often self-medicated.

Aim: to determine the frequency of self-medication with analgesics in the rheumatology setting and its associated factors.

Methods: In this context, we conducted a descriptive and analytical cross-sectional study, concerning 150 patients followed at the rheumatology department of the Charles Nicolle Hospital in Tunis, from March 2023 to June 2023.

Results: The average age of patients was 51 years with extremes ranging from 15 to 82 years, with a female predominance. Concerning the pathologies for which our patients were followed in rheumatology, 81 patients had inflammatory pathologies and 69 patients with degenerative pathologies. Rheumatoid arthritis was the most frequent pathology. The average pain using the visual analog scale (VAS) ranged from 5 to 8. Self-medication was a very common practice in our population with a prevalence of 60.7%. Paracetamol was the most used molecule (39%), followed by NSAIDs (38%). Only 10 patients (6.7%) reported learning about the drug before self-medication. Factors that were significantly associated with self-medication were: older age ($p=0,02$), female sex ($p=0,05$), high pain score ($p=0,01$), unemployment ($p=0,003$), and the presence of degenerative pathology ($p<0,001$).

Conclusion: Self-medication was a very common practice in our population and health professionals must be aware of its frequency, in order to educate patients and promote responsible self-medication behaviors.

Key words: Self-medication, analgesics, paracetamol.

RÉSUMÉ

Introduction : Les analgésiques sont couramment utilisés pour soulager la douleur, mais leur consommation demande de la vigilance en raison de la possibilité d'interactions et de la survenue d'effets secondaires indésirables à mauvais escient ; cependant, ils sont souvent utilisés en automédication.

Objectif : Déterminer la fréquence de l'automédication par les antalgiques en milieu rhumatologique et ses facteurs associés.

Méthodes : Dans ce contexte, nous avons réalisé une étude transversale descriptive et analytique, concernant 150 patients suivis au service de rhumatologie de l'hôpital Charles Nicolle de Tunis, de mars 2023 à juin 2023.

Résultats : L'âge moyen des patients était de 51 ans, avec une prédominance féminine. Concernant les pathologies pour lesquelles nos patients ont été suivis en rhumatologie, 81 patients présentaient des pathologies inflammatoires et 69 patients des pathologies dégénératives. La polyarthrite rhumatoïde était la pathologie la plus fréquente. La douleur moyenne sur l'échelle visuelle analogique (EVA) varie de 5 à 8. L'automédication est une pratique très courante dans notre population avec une prévalence de 60,7%. Le paracétamol était la molécule la plus utilisée (39%), suivi des AINS (38%). Les facteurs significativement associés à l'automédication étaient : l'âge avancé ($p=0,02$), le sexe féminin ($p=0,05$), un score de douleur élevé ($p=0,01$), le chômage ($p=0,003$), et la présence d'une pathologie dégénérative ($p<0,001$).

Conclusion : L'automédication était une pratique très courante dans notre population et les professionnels de la santé doivent être conscients de sa fréquence, afin d'éduquer les patients et de promouvoir des comportements responsables en matière d'automédication.

Mots-clés : Automédication, analgésiques, paracétamol.

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INTRODUCTION

Rheumatology is a specialty that deals with patients' symptoms, including pain. Pain is considered the most frequent reason for consultation in rheumatology. All structures of the musculoskeletal system: joints, bones, tendons, ligaments, and muscles, can be affected (1). Pain is based above all on the patient's feelings. According to the official definition of the International Association for the Study of Pain (IASP), it is an unpleasant sensory and emotional experience associated with, or resembling, that is associated with actual or potential tissue damage. Pain is classified according to its nature and duration. According to the duration of the pain, we distinguish between acute and chronic pain; and according to the nature of the pain, we distinguish between pain of nociceptive, neuropathic, and neoplastic origin (2). Whatever the purpose of pain, the aim is to relieve it. Painkillers are used following a prescription that provides adequate pain management using the World Health Organization (WHO) analgesic ladder. Analgesics must normally be used under a medical prescription (3).

The WHO defines self-medication as the use of a drug by an individual, on his or her initiative or that of a close relative, to treat a self-identified condition or symptom without consulting a healthcare professional (4). Several benefits have been linked to appropriate self-medication, including increased access to medication and relief for the patient, the active role of the patient in his or her health care, better use of physicians and pharmacists' skills, and reduced burden of governments due to health expenditure linked to minor health conditions. However, it is not a completely safe practice, especially in the case of non-responsible self-medication. Incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, and dangerous drug interactions are some of the possible risks of self-medication practices (5). The phenomenon of self-medication with analgesics in Tunisia is taking on alarming proportions and becoming a public health problem, which prompted us to carry out this study to take stock of the practice of self-medication in our population.

This study aimed to determine the frequency of self-medication with analgesics in the rheumatology setting and its associated factors.

METHODS

A descriptive cross-sectional study of patients was carried out at the rheumatology department of Charles Nicolle Hospital in Tunis between March 2023 and June 2023. Patients aged 18 or older followed up in the rheumatology clinic were consecutively included. Inclusion criteria were age ≥ 18 years and attendance at the rheumatology clinic during the study period. Exclusion criteria included cognitive impairment preventing informed consent, refusal to participate, and any other condition that precluded completion of study procedures. Written informed consent was given by each participant. Sociodemographic data and data on the pathology for which the patient is

being treated in rheumatology (type, duration, and pain intensity according to the visual analog scale (VAS)) were collected.

Data related to self-medication was collected using a questionnaire issued to each patient.

The questionnaire comprises questions related to the practice of self-medication: whether or not it is practiced, the type of self-medication, the cause, the molecule chosen, the route used, the information sought before taking the medication, and knowledge of precautions and side effects. The questionnaire used in this study was developed specifically for this research based on clinical expertise and literature review; it was not formally validated or pre-tested prior to use.

Descriptive statistical analysis was performed using SPSS V.25 (IBM Corp.). The quantitative variables were expressed as mean and standard deviation. For the qualitative variables, we calculated the frequencies and percentages. Statistical correlation tests were carried out according to the type of data. The Chi2 test was used to study independence between two qualitative variables. The ANOVA test was carried out to study the effect of a qualitative variable known as a factor on a quantitative variable. Pearson's bivariate correlation test was adopted to determine the regression between two quantitative variables. A p-value of <0.05 was considered statistically significant. Results with $p = 0.05$ were reported as borderline associations rather than statistically significant.

RESULTS

Patients' characteristics

Our study included 150 patients. The mean age of the patients was 51 ± 12 years. In our study, 22.7% of patients were men and 77.3% were women, with a sex ratio equal to 0.29. Regarding their level of education, 32% of patients had primary school education, 31.3% had secondary school education, 19.3% were illiterate and 17.3% had a university education. The majority of patients were unemployed (59.3%).

The pathologies for which patients were treated in rheumatology are broken down as follows: 81 patients were treated for inflammatory pathologies and 69 for degenerative pathologies.

The median disease duration was 5 years [2-15]. The mean VAS was 6 ± 1 .

The different pathologies are summarized in Table 1.

Self-medication

Results from the questionnaire

Among the 150 patients who responded to the questionnaire, 92 (60.7%) reported they had self-medicated with painkillers. The answers to the self-medication questionnaire are detailed in Table 2.

Table 1. Distribution of patients according to the type of pathology for which they are treated in rheumatology

Pathology	N (%)
Rheumatoid arthritis	60 (40)
Knee osteoarthritis	26 (17.3)
Back pain	21 (14)
Spondyloarthritis	15 (10)
Neck pain	11 (7.3)
Lombosciatica	10 (6.6)
Tendinitis	4 (2.7)
Scleroderma	1 (0.7)
Gout	1 (0.7)
Osteoporosis*	1 (0.7)
Total	150 (100)

*Osteoporosis itself is typically asymptomatic, and pain usually occurs only when associated with fractures; this distinction was considered when evaluating musculoskeletal pain in the study population

Table 2. Results from the self-medication questionnaire

Questions	N (%)
Type of self-medication	
Took a drug without consulting a doctor	64 (70)
Increased the dose of a prescribed drug	15 (16)
Extended the duration of a prescribed drug	13 (14)
Causes of self-medication	
Advice from a friend	50 (54)
dissatisfaction with a prescribed treatment	22 (24)
Financial constraints	20 (22)
Drugs used for self-medication	
Paracetamol	36 (39)
Nonsteroidal anti-inflammatory drugs (NSAIDs)	35 (38)
▪ Diclofenac	14 (40)
▪ Coxibs	7 (19)
▪ Naproxen	7 (19)
▪ Ibuprofen	4 (14)
▪ Ketoprofen	3 (8)
Corticosteroids	10 (11)
Paracetamol+Codeine	3 (3)
Paracetamol+Tramadol	8 (9)
Administration route	
Oral	84 (91)
Rectal	6 (7)
Intramuscular	2 (2)
Information seeking on self-medication drugs	
Information from a doctor	2 (2)
Information from a pharmacist	2 (2)
Information from the internet	6 (6)
Risky behavior	
Using two NSAIDs simultaneously	8 (8)
Using paracetamol with another association containing paracetamol	2 (2)
Knowledge about side effects	
Addiction	1 (1)
Liver and kidney problems	3 (3)
Stomach problems	1 (1)

Factors associated with self-medication

Sociodemographic factors

Self-medication was statically more frequent in the elderly, especially in the 50-59 age bracket ($p=0.02$). Self-

medication was more common among women than men ($p=0.05$).

No significant relationship was found between educational level and the practice of self-medication. Self-medication was statistically more frequent in unemployed patients than in employed patients ($p=0.003$).

Disease-associated factors

No significant relationship was noted between the type of pathology and self-medication. However, when the diseases were grouped into two categories (inflammatory and degenerative diseases), it was found that self-medication was significantly more common in degenerative diseases ($p<0.001$). There was a significant relationship between pain intensity and the practice of self-medication, the higher the pain VAS, the more patients resort to self-medication ($p=0.01$). However, pain intensity does not influence the choice of the drug used in self-medication.

DISCUSSION

This study aimed to determine the frequency of self-medication with analgesics in the rheumatology setting and its associated factors. It showed that self-medication was a widespread phenomenon found in over 60% of cases. A multi-center, cross-sectional study carried out in emergency medical departments in France found self-medication in 84.4% of cases. Nearly 2 out of 3 patients were self-medicating, and in 60% of cases, they were taking a previously prescribed medication (6). Another study carried out in 2017 showed that the rate of self-medication with analgesics represented 27.5% of all self-medications. It should be noted that the perception of pain in emerging countries is particular. Pain is experienced as an illness and not as a symptom, which is not the case in so-called developed countries, where pain opens an investigation into its causes (7). A recent study conducted among cardiovascular patients in Béja, Tunisia, reported an extremely high prevalence of self-medication (96%), with paracetamol, antibiotics, and antitussives being the most commonly used drugs, highlighting the widespread nature of this practice in the region and the need for healthcare providers to actively counsel patients on its potential risks and benefits (8).

Our study found that the age group most likely to self-medicate with painkillers was between 50 and 59 years of age. This can be explained by the high prevalence of pain in the elderly, particularly musculoskeletal pain (9). Musculoskeletal pain accounts for over 50% of pain in the elderly. It is the most frequent reason for consultation with general practitioners (10,11). The pain of osteoarthritic origin predominates in this population, mainly affecting the lumbar spine and leading to disabled walking (12,13). A systematic review and meta-analysis on the prevalence of self-medication in the elderly found a high prevalence ranging from 0,3 to 82% (14).

However, another study found that self-medication was more common in young adults in the age group of 18-30 years and that elderly people practice less self-medication

because of their use of multiple other drugs (15). Our study showed that self-medication was more common among women. In a large meta-analysis including 89 studies on self-medication in university students, self-medication was more frequent in women than in men (16). Likewise, a cross-sectional study in the Brazilian population showed that self-medication was predominant in women more than men (17). This could be explained by women tending to use medications before they get ill (18). Our findings show that degenerative pathologies and unemployment are significantly associated with higher rates of self-medication. Patients with degenerative conditions often experience chronic pain and functional limitations, which may lead them to seek immediate relief through self-administered medications rather than awaiting medical consultation. Similarly, unemployment may limit financial access to healthcare services, prompting individuals to rely on over-the-counter or previously prescribed medications. Self-medication was more prevalent in low-income participants in another study. This could be explained by the economic factor, in the sense that people who are unemployed and therefore have low income would avoid going for a consultation for lack of means (15).

In our study, pain intensity was associated with the practice of self-medication which is concurrent with the findings of a review on self-medication in pain management (19). The main reason for self-medication identified in our study was the advice of a friend, followed by dissatisfaction with a treatment already prescribed and financial constraints. Other reasons for self-medication reported are recommendations of family or friends, anxiety related to the hospital, and previous successfulness with self-medication used for other medical conditions (20,21). In another study, the lack of time to see a doctor was the most common reason for self-medication (22).

The most frequently self-medicated molecule in our study was paracetamol, followed by NSAIDs which is concurrent with results from other studies (22,23). In France, the analysis of over-the-counter analgesic consumption over the past decade that paracetamol remains the most-consumed analgesic, particularly for the adult high-dosage (24). There is reliable evidence about the efficacy of drugs available without prescription, with adverse events generally not different from placebo, according to Cochrane Reviews. Rare serious adverse events were reported for naproxen and ibuprofen. No serious adverse events were found with paracetamol (25). One study showed that there was a lack of knowledge about the use of paracetamol. This lack of knowledge was partly due to insufficient identification of drugs containing paracetamol in combination, but above all to a lack of awareness of the hepatic risk and the risk of overdose (26). Of particular concern is the use of corticosteroids, reported by 11% of patients, which carries risks of serious adverse effects, including immunosuppression, gastrointestinal complications, and metabolic disturbances (27). This highlights the critical need for patient education on the potential harms of unsupervised corticosteroid use.

These findings have important implications for clinical practice and public health in Tunisia. Physicians should proactively counsel patients with chronic degenerative

conditions on safe pain management strategies. At the public health level, awareness campaigns emphasizing the risks of self-medication, coupled with improved access to affordable healthcare, could reduce the prevalence of unsafe self-medication practices. Implementing structured patient education programs may help promote responsible medication use and improve overall health outcomes.

Our study presents certain limitations. The questionnaire used has not been specifically validated and data collection was within the limits of the study population, with some patients having difficulty understanding the questionnaire. Similarly, we can't rule out the doctor effect in data collection, as many patients tend to fear that their doctor will be aware of their self-medication. This study was monocentric, conducted in a single tertiary rheumatology center (Charles Nicolle Hospital, Tunis), which limits external validity and may not be generalizable to the broader Tunisian population or other care settings. Logistic regression was not performed to identify independent predictors of self-medication due to the limited sample size, which would have reduced the reliability and statistical power of such analyses.

Our study concluded that self-medication was a common practice in our population. We highlighted a widespread phenomenon that requires our full attention to make patients, doctors, and pharmacists more aware of its frequency and seriousness. Most of the drugs consumed in self-medication are not risk-free, meaning that they deserve greater attention from health professionals and the government, as the possible intoxication and adverse effects may increase spending on health. Promoting responsible self-medication behaviors is needed to prevent misuse and the risk of adverse effects.

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