



RESEARCH ARTICLE

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PROFILE OF MEFENAMIC ACID AND DICLOFENAC SODIUM AS PAIN RELIEVER IN ORAL SURGERY AT DENTAL POLY

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Submitted: 7 September 2023

Accepted: 15 Januari 2024

Published: 20 Januari 2024

ABSTRACT

Pain is a physical disorder caused by tissue damage in the body that causes the body to feel uncomfortable when active. Pain medication may be medications that involve non-pharmacology and pharmacology using analgetics. An analgetic drug helps reduce pain, mainly through its workforce on the central nervous system, and changes a person's response to pain. The study employed an observational design with a quantitative descriptive research design. The population of this study is 1,367 data on the medical records of a patient-dental oral surgery patient in January 2022. The number of samples in the study was 94 data on medical records that had dental pain filled the inclusion crebe. The research is using a total sampling technique. Results have shown that the patients who take the highest levels of mefenamic acid drugs are 26- 45 years old (52.5%) and the patients who take the highest level of diclofenac sodium -45 (49%), followed by patients who take mefenamic acid and 69.1% at a rate of 62.5% and 69.1%, for the dose of the patient taking the mefenamic 2 x 500 mg (45%) and 3 x 500 mg (55%). This study concludes that patients who consume mefenamic acid and diclofenac sodium are aged 26-45 years with the most gender being female with the maximum dose being 3x500 mg for mefenamic acid and 3x50 mg for diclofenac sodium, the duration of which is the same-same 7 days.

Key words: Pain, Toothache, Mefenamat acid, Diclofenac sodium

INTRODUCTION

Pain is one of the common ailments common to many people in the world and forces sufferers to visit health facilities. Pain is a physical disorder caused by tissue damage in the body that causes the body to feel uncomfortable when active (Khairunisa, 2017). Toothache is usually caused by caries or cavities (Struzycka, 2014).

Based on 2018 Riskesdas data, the proportion of dental problems in Indonesia in 2018 reached 78.8% and the proportion of oral health problems in Indonesia in 2018 reached 36.8% (Riskesdas, 2018). The results of Basic Health Research (Riskesdas) in

2018 stated that the largest proportion of dental problems in Indonesia were damaged, cavities or diseased teeth (45.3%). East Java Province, Jember Regency is an area that has the 8th highest proportion of dental and oral problems in East Java where this position is still above the average proportion of dental and oral problems in East Java with a percentage above 54.22% (East Java Riskesdas, 2018).

The World Health Organization (WHO) has issued pain guidelines for the pharmacological treatment of pain known as laddering. Analgesics as a form of pain management are divided into two large groups, one of which is the group of non-steroidal anti-inflammatory drugs (NSAID) and opioids. The types of NSAID most often used in dentistry to reduce tooth pain are mefenamic acid, diclofenac sodium, ibuprofen, or a combination of paracetamol and opioid analgesic types.

The use of mefenamic acid with diclofenac sodium is consistent in many ways, where at times the oral feeding may have a strong analgetic effect lasting from about 2 to 4 hours (Pangalila, et al., 2016).

The results of research from Kheiriyat (2014) stated that the first anti-pain drug that was often used was mefenamic acid. The use of mefenamic acid drugs is more effective in terms of reducing tooth pain with relatively small side effects. In a study conducted by Fadhillah (2016), it was found that diclofenac sodium is the second most frequently used anti-pain. The use of diclofenac sodium is quite widely used because it can accumulate quite well in synovial fluid, besides that its therapeutic effect has a long duration in synovial fluid compared to plasma levels. Based on the above description, researchers are interested in doing a study on the profile of the use of mefenamic acid and diclofenac sodium in oral dental patients at the Baladhika Husada Jember Hospital to provide information that will be helpful to society and the rest of the researchers.

MATERIAL AND METHODS

This research uses descriptive research with a quantitative descriptive research design and the approach in this research is retrospective descriptive. The population in this study were all prescriptions containing mefenamic acid and diclofenac sodium in the Outpatient Installation of Baladhika Husada Hospital Jember in January 2022 - December 2022, namely 1367 populations. This study used a purposive sampling technique with a sample of 95 patients. The instruments used were medical record data and prescriptions for patients taking mefenamic acid and diclofenac sodium.

The study has already obtained approval from the university Health Research Ethics Commission Dr. Soebandi as stated by letter of ethics number 397/ kep/uds /2023 and research permits from Baladhika Husada Hospital with b /293/ viii /2023, and permission from national and political entities no. 74/241/41/2023.

RESULTS AND DISCUSSIONS

1. Age

Table 3.1 Distribution of frequency and percentage of patients with mefenamat acid use based on age in polydental oral surgery patients at the baladhika husada jember outpatient.

Category Age	Mefenamic Acid	
	Frequency (F)	Present (%)
14-25 Years	13	32,5%
26-45 Years	21	52,5%
46-65 Years	6	15%
Total	40	100%

Table 3.2 Distribution of frequency and percentage of patients with sodium dioxidase high-fat diets based on age in oral dentist surgery patients at the baladhika husada jember outpatient.

Category Age	Diclofenac Sodium	
	Frequensy (F)	Present (%)
14-25 Years	22	40%
26-45 Years	27	49%
46-65 Years	6	11%
Total	55	100%

Based on Tables 3.1 and 3.2 it is known that the person who consumed the most mefenamat acid medications was 21-45 years old, at least 21 or 52.5%, and the patient who consumed the most delicious 26- 45 - year - olds with 27 or 49%.

The data above is similar to the results of research conducted by Fitriyati, et al. (2021) which stated that the highest number of toothache patients who received analgesic therapy at the Pradipta Slawi pharmacy were adults (26-45 years) with 81 prescriptions (47%). On the other hand, the results of the understanding of Pangalila, et al (2016) show that the age of patients who consumed diclofenac sodium was 26-35 years as many as 6 people (20%), 36-45 years as many as 8 people (27%), 46-55 years as many as 9 people (30%). Mefenamic acid and diclofenac sodium are NSID that have an analgesic effect, including treating toothache, wound pain, and postoperative pain (Ginoto 2013).

In the opinion of mefenamic acid researchers, sodium diaphragms are helpful as analgesic and anti-inflammatory medications that can be consumed in all patients in the study. The mefenamic acid is counter-indicative in patients less than 14 years old.

Patients over a 26-45 year old were dominant in the study. During adolescence to adulthood, the highest number of people get dental checkups because of their awareness of dental care and maintenance to treat problems as well as improve their appearance. Some of

the risks of caries in the teeth include physical, biological, environmental, behavior, and factors related to lifestyle factors such as consumer habits, such as foods containing sugar, excessive alcohol consumption, smoking, and a lack of vitamins, and maintenance of dental hygiene.

A number of factors should be considered in the selection of analgetics therapy, one of which is the patient's age and health condition (such as those with reduced renal function), since at infancy the development and physiological function of the body and organs is rudimentary, Whereas at an adult age <50 years of the physiological system works optimally and at age >50 years (aged) there has been a decline in organ function, so careful selection of therapy (Murdiani, 2018).

2. Gender

Table 3.3 Distribution of frequency and percentage of patients with a gender-based methyllic acid use in oral surgery poli patient at the baladhika husada jember outpatient.

Category	Mefenamac Acid	
Gender	Frequensy (F)	Present (%)
Man	15	37,5%
Woman	25	62,5%
Total	40	100%

Table 3.4 Distribution of frequency and percentage in the patient with diaphragm (sodium intake) drugs is high-quality based on sex in polytooth oral surgery patients at the baladhika husada jember outpatient.

Category	Diclofenac Sodium	
Gender	Frequensy (F)	Present (%)
Man	17	30,9%
Woman	38	69,1%
Total	55	100%

Based on tables 3.3 and 3.4, it can be seen that the majority of patients who took mefenamic acid and diclofenac sodium were female with a percentage of 62.5% for mefenamic acid and 69.1% for diclofenac sodium.

The study matches Apriliyani (2018) that the use of analgesic drugs primarily mefenamic acid in 59% of women. In another study conducted by Fitriyati et al. (2021), persistent painkillers in dental patients suggest that the use of analgesic drugs is more dominant in female patients (57.6%).

This is similar to Soeroso (2017) research, which states a greater use of analgetics in female patients, as shown by the percentage of pain incidents more often experienced by women. Studies show fluctuations in hormones that occur in women's bodies, especially before menstruation can affect oral health, one of which is to make gums sensitive. Researchers for Case Western Reserve University report that women tend to practice better oral and dental health than men, but they still have a greater risk of developing cavities as a result of fluctuations in this hormone.

Female researchers have a high intensity of pain, a low pain threshold, and a lack of tolerance for male stimuli. Furthermore, male patients have lower pain sensitivity than women or are less able to exercise extreme pain than females. Factors that affect other female pains such as the cultural factors that make up a gender trait in which women are more likely to complain about the pain she has suffered than men may affect female patients using more pain medications to relieve their symptoms than male patients.

3. Drug Dose

Tabel 3.5 Distribution of frequency and percentage of patients with mefenamat acid use based on doses of drugs on polytooth oral surgery patients at the baladhika husada jember outpatient.

Category Drug Dosage	Mefenamac Acid	
	Frequensy (F)	Present (%)
2 x 500 mg	18	45%
3 x 500 mg	22	55%
Total	40	100%

Tabel 3.6 Distribution of the frequency and percentage of the patient with sodium drug use is perfectly balanced, based on a dose of the drug on oral dentist teeth at the baladhika husada jember hospital outpatient.

Category Drug Dosage	Diclofenac Sodium	
	Frequensy (F)	Present (%)
2 x 50 mg	25	45,4%
3 x 50 mg	30	54,6%
Total	55	100%

Based on Tables 3.5 and 3.6 the majority of patients who take mefenamic acid medications by a dose of medicine 2 x 500 mg as much as 18 or 45% and mefenamic acid medications by a dose of 3 x 500 mg by 22 or 55%. With a dose of 2 x 50 mg of medication, for 25 patients, or 45.4%, and a dose of 3 x 50 mg, for 30 patients, or 54.6%.

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The results of this study are similar to Istiqomah's research, (2022), the dose of mefenamic acid used in toothache sufferers was 2 x 500 mg for 33 prescriptions, while the dose of 3 x 500 mg was for 88 prescriptions. The dose of diclofenac sodium used was 2 x 50 mg for 27 recipes while the 3 x 50 mg dose was for 46 recipes.

According to Marnata, (2018), the dose size of a drug was obtained from a study that took quite a long time. The dose of mefenamic acid is 2-3 times 250-500 mg, while the dose of diclofenac sodium is 100-150 mg a day divided into 2-3 doses (Team Medical Mini Note, 2017).

Medication that is consumed at the right time and dose will be therapeutic so that if it is used in a dose that exceeds the recommended usage it can result in poisoning and overdose, whereas if it is consumed in a smaller dose it will not cause a healing therapeutic effect. The dosage of the drug used is usually adjusted to the age of the patient, for example, the use of mefenamic acid for the elderly uses a low dose, and the aim is to reduce the risk of side effects such as gastrointestinal disorders. Mefenamic acid or diclofenac sodium should be used after meals and should not be given to patients who have a history of gastrointestinal disease.

4. Duration Of Drug Use

Tabel 3.7 Distribution of the frequency and percentage of patients with mefenamic acid drugs based on the duration of their use of oral - surgical incisions at the baladhika husada jember hospital outpatient.

Category Duration Of Drug Use	Mefenamic Acid	
	Frequensy (F)	Present (%)
5 Days	5	12,5%
6 Days	15	37,5%
7 Days	20	50%
Total	40	100%

Based on Tables 3.7 and 3.8 it is known that most patients who take the mefenamic acid and correct sodium diklofted achieve the maximum duration of the drug for 7 days with a 50% percentage for the mefenamic acid and 63.6% for the sodium course.

Based on tables 3.7 and 3.8 it can be seen that most of the patients who consumed mefenamic acid and diclofenac sodium had the maximum duration of drug use for 7 days with a percentage of 50% for mefenamic acid and 63.6% for diclofenac sodium.

Tabel 3.8 Distribution of the frequency and percentage of the patients with sodium intake is perfectly balanced, based on the duration of the drug use in oral dentist teeth at the baladhika husada jember outpatient.

Category Duration Of Drug Use	Diclofenac Sodium	
	Frequensy (F)	Present (%)
5 Days	10	18,2%
6 Days	10	18,2%
7 Days	35	63,6%
Total	55	100%

The results of research conducted by Yudhowibiwo et al., (2011) show that the duration of use of NSAID class drugs is given at different times. Administration of mefenamic acid and diclofenac sodium should not exceed 7 days. Research results from Istiqomah, (2022) show that the duration of use of mefenamic acid and diclofenac sodium varies between 3 and 5 days with the maximum prescription being 4 days (39.32%).

The timeliness of taking medication and the frequency of drug use are important to achieve maximum therapeutic effect and minimal side effects. Mefenamic acid and diclofenac sodium are NSAID drugs that are associated with an increased incidence of cardiovascular side effects such as stroke or thrombotic events which can be fatal. The risk increases with the duration of use. Patients with cardiovascular disease or risk factors for cardiovascular disease may be at greater risk.

CONCLUSION

The patient's most over-ingested mephenysical acid and yummy sodium in a 45-year-old. Whereas most of the patients who take mephenypal acid and sodium diklofted are sex-grade females. The most widely consumed dose of mephenycardic acid is 3x500 mg and the high dose of sodium fats is the most consumed 3x50 mg. The percentage of drug use in terms of duration of usage can be shown that the length given to mephenybic acid and the fastest refined sodium is 5 days the longest is 7 days, and the most prescribed is 7 days.

ACKNOWLEDGEMENT

Thank you to Baladhika Husada Hospital for giving permission for researchers to conduct research, thank you to parents who have encouraged researchers, thank you also to myself for fighting to this point, and to several parties who cannot be mentioned one by one.

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