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# Overview of Pharmacological Treatment for Gastritis Patients in the Inpatient Unit at RSUD Haji Makassar

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**ABSTRACT**

**Background:** Gastritis is an inflammatory disease of the gastric mucosa with a high prevalence worldwide, particularly in developing countries. Risk factors include Helicobacter pylori infection, diet, stress, and drug use. Pharmacological therapy remains the primary treatment strategy, but drug-related problems may arise. Therefore, evaluating the effectiveness of pharmacological therapy is essential

**Objective:** This study aimed to evaluate the characteristics of gastritis patients and the effectiveness of pharmacological therapies in reducing pain among inpatients at RSUD Haji Makassar.

**Methods:** A retrospective quantitative descriptive study was conducted using medical records of 76 gastritis patients aged 17–30 years, hospitalized from July to December 2024. Patient characteristics and pharmacological therapy distribution were analyzed. The effectiveness of therapy was assessed by comparing pain scale scores before and after three days of treatment using the Wilcoxon test.

**Results:** Most patients were female (80.3%) and aged 18–24 years (77.6%). The most prescribed drug was Omeprazole (44.7%), followed by Ranitidine (35.5%) and Sucralfate (19.7%). All therapies significantly reduced pain ($p < 0.05$). Mean pain scores decreased from 4.29 to 0.68 with Omeprazole, from 4.30 to 1.11 with Ranitidine, and from 3.80 to 1.20 with Sucralfate. However, no significant difference was found between treatment groups.

**Conclusion:** Gastritis was more prevalent among young females. Omeprazole was the most frequently used drug, and all three therapies effectively reduced pain after three days. Continuous monitoring is recommended to optimize therapy outcomes.

**Keywords: Gastritis, Omeprazole, Ranitidine, Sucralfate, Pharmacological therapy, Pain reduction**

## INTRODUCTION

Gastritis is an inflammation of the gastric mucosa (Smith et al., 2019) , with signs and symptoms such as nausea, vomiting, dull pain, discomfort in the upper abdomen, a feeling of fullness, and loss of appetite (Feyisa & Woldeamanuel, 2021; Smith et al., 2019) . Several previous studies found that factors such as gender, age, socioeconomic status, biological, environmental factors, individual behavior, *Helicobacter Pylori infection*, diet, stress, and side effects of *Nonsteroidal Anti-inflammatory Drugs* (NSAIDs) significantly contribute to gastritis with the number of sufferers increasing every year (Alberts et al., 2020; Firdous et al., 2016; Sjomina et al., 2018; Widayat et al., 2018; Xu et al., 2024).

*Global Burden of Disease* (GBD) study found that *the age-standardized prevalence rate* (ASPR) of gastritis globally in 2019 was 518.11 per 100,000 people (Xu et al., 2024) . Approximately 50.8% of the population in developing countries suffers from gastritis (Feyisa & Woldeamanuel, 2021). Meanwhile, the prevalence of *H. pylori* infection (a significant factor causing gastritis) in various regions of Indonesia was found to be 18.1% in Sulawesi as a whole, and specifically in Makassar City, reaching 36.7%, higher than other cities on Sulawesi Island (Maulahela et al., 2024) . If gastritis is not treated promptly, it can cause damage to the function of the stomach organs and increase the risk of gastric cancer and, in the worst case, death.

Pharmacological therapy for gastritis involves administering synthetic drugs such as *proton-pump inhibitors* (PPIs), *H2-blockers*, antacids, and sucralfate (Widayat et al., 2018). *Proton-pump inhibitors* (PPIs) are a class of gastritis medications that work by suppressing stomach acid. With their excellent effectiveness against acid-related diseases and their wide availability, both in over-the-counter and generic formulations, the use of PPIs in gastritis treatment continues to increase (Syari & Sari, 2021).

During treatment for gastritis patients, several problems known as *Drug-Related Problems* (DRPs) can occur. DRPs are problems expected to occur related to the drug therapy currently being used by the patient (Bimmahariyanto & Alpian, 2021). Therapy often involves a combination of drugs, and the simultaneous use of several drugs facilitates drug interactions (Bimmahariyanto & Alpian, 2021). Other problems related to therapy include receiving therapy without indications, underdosing, overdosing, and administering inappropriate medications (Bimmahariyanto & Alpian, 2021; Sriwijaya et al., 2022). Based on these phenomena, this study aims to evaluate the efficacy of pharmacological therapy in patients with gastritis.

## METHODS

This is a retrospective quantitative descriptive study based on patient medical records at the inpatient unit of RSUD Haji Makassar, from July to December 2024. A total of 76 samples were selected,

with inclusion criteria of all patients suffering from gastritis aged 17-30 years. The results of the study are presented through tables describing the characteristics of the respondents and tables comparing the distribution of pharmacological therapy for gastritis. Data were analyzed using *Analysis of Variance* (ANOVA).

## RESULT

**Table 1.** *Frequency Distribution of Gastritis Patients by Gender*

| No. | Gender | Frequency (F) | Percentage (%) |
|---|---|---|---|
| 1 . | Male | 15 | 19.7% |
| 2 . | Female | 61 | 80.3 % |
| | **Total** | **76** | **100%** |

Based on Table 1, of the 76 patients who experienced gastritis, 15 patients (19.7%) were male, while 61 patients (80.3%) were female**.**

**Table 2.** *Frequency Distribution of Gastritis Patients by Age Range*

| No. | Age Range | Frequency (F) | Percentage (%) |
|---|---|---|---|
| 1 . | 18-24 | 59 | 77.6% |
| 2 . | 25-30 | 17 | 22.4 |
| | **Total** | **76** | **100%** |

Based on Table 2, of the total 76 patients treated for gastritis, the 18-24 year age group dominated with 59 patients (77.6%), while the 25-30 year age group only included 17 patients (22.4%).

**Table 3.** *Frequency Distribution Use of Gastritis Medications*

| No. | Type of medication | Frequency (F) | Percentage (%) |
|---|---|---|---|
| 1. | Omeprazole | 34 | 44.7 % |
| 2. | Ranitidine | 27 | 35.5 % |
| 3. | Sucralfate | 15 | 19.7 % |
| | **Total** | **76** | **100%** |

Based on Table 3, of the 76 patients treated for gastritis, omeprazole was the most commonly used drug, with 34 patients (44.7%). The second most commonly used drug was ranitidine, with 27 patients (35.5%). Meanwhile, sucralfate was used in 15 patients (19.7%)

**Table 4.** *Distribution of Dose of Gastritis Medication*

| No. | Medication | Medication Dosage |
|---|---|---|
| 1. | Omeprazole | 40 mg /12 h / iv (2 x 1) |
| 2. | Ranitidine | 50 mg / 12 h / iv (2 x 1) |
| 3. | Sucralfate | 500mg/ 8 h / Oral (3 x1) |

Based on Table 4, the dose distribution for omeprazole is 40 mg/12 hours intravenously, ranitidine is 50 mg/12 hours intravenously, and sucralfate is 500 mg/8 hours orally.

**Table 5.** *Results of Tests of Normality*

| Group | Shapiro-Wilk Statistics | df | Sig. | Description |
|---|---|---|---|---|
| Pain Scale (Omeprazole) | 0.779 | 34 | 0.000 | Abnormal |
| Pain Scale after 3 Days (Omeprazole) | 0.767 | 34 | 0.000 | Abnormal |
| Pain Scale (Ranitidine) | 0.736 | 27 | 0.000 | Abnormal |
| Pain Scale after 3 Days (Ranitidine) | 0.852 | 27 | 0.001 | Abnormal |
| Pain Scale (Sucralfate) | 0.801 | 15 | 0.004 | Abnormal |
| Pain Scale after 3 Days (Sucralfate) | 0.806 | 15 | 0.004 | Abnormal |

Based on Table 5, the *Shapiro-Wilk normality test results* show that all pain scale data groups in gastritis patients, both upon admission and after 3 days of therapy, have a significance value (Sig.)<0.05, which means the data are not normally distributed. Therefore, the *Wilcoxon test* is an alternative.

**Table 6.** *Results of the Wilcoxon Test for Omeprazole*

| Types and Dosage of Drugs | Pain Scale | Mean | Standard Deviation | Z | *P* |
|---|---|---|---|---|---|
| Omeprazole (40 mg/12 hours) | Pain scale entry | 4.294 | 0.62906 | -5.272 | 0.000 |
| | Pain scale after 3 days | 0.676 | 0.63821 | | |

Based on Table 6, the Wilcoxon test shows a Z value of -5.272 with a significance value (p-value) of 0.000 < 0.05, indicating that there is a significant difference between the pain scale before and after administering Omeprazole 40 mg therapy every 12 hours.

The mean pain scale value at the time of hospital admission was 4.294 with a standard deviation of 0.62906. After 3 days of therapy, the mean pain scale decreased to 0.676 with a standard deviation of 0.63821. This significant decrease in the mean pain scale indicates that pharmacological therapy with a dose of Omeprazole 40 mg every 12 hours is effective in reducing the pain scale in gastritis patients in the inpatient installation of RSUD Haji Makassar.

**Table 7.** *Results of the Wilcoxon Test for Ranitidine*

| Types and Dosage of Drugs | Pain Scale | Mean | Standard Deviation | Z | *P* |
|---|---|---|---|---|---|
| Ranitidine (50 mg/12 hours) | Pain scale entry | 4.296 | 0.609 | -4.598 | 0.000 |
| | Pain scale after 3 days | 1.111 | 0.892 | | |

Based on Table 7, the Wilcoxon test shows a Z value of -4.598 with a significance value (p-value) of 0.000<0.05, indicating that there is a significant difference between the pain scale before and after administering Ranitidine 50 mg therapy every 12 hours.pain shows that pharmacological therapy with a dose of Ranitidine 50 mg every 12 hours is also

effective in reducing the pain scale in gastritis patients in the inpatient instalation of RSUD Haji Makassar.

**Table 8.** *Results of the Wilcoxon Test for Sucralfate*

| Types and Dosage of Drugs | Pain Scale | Mean | Standard Deviation | Z | *P* |
|---|---|---|---|---|---|
| Sucralfate (500 mg/8 hours) | Pain scale entry | 3.800 | 0.676 | -3.487 | 0.000 |
| | Pain scale after 3 days | 1.200 | 0.774 | | |

Based on Table 8, the Wilcoxon test shows a Z value of -3.487 with a significance value (*p* -value) of 0.000 < 0.05, indicating that there is a significant difference between the pain scale before and after administering Omeprazole 500 mg therapy every 8 hours.

The mean pain scale score upon hospital admission was 3.800 with a standard deviation of 0.676. After 3 days of therapy, the mean pain scale decreased to 1.200 with a standard deviation of 0.774. This significant decrease in the mean pain scale indicates that pharmacological therapy with a dose of 500 mg of Sucralfate every 8 hours is also effective in reducing pain in gastritis patients in the inpatient unit of RSUD Haji Makassar.

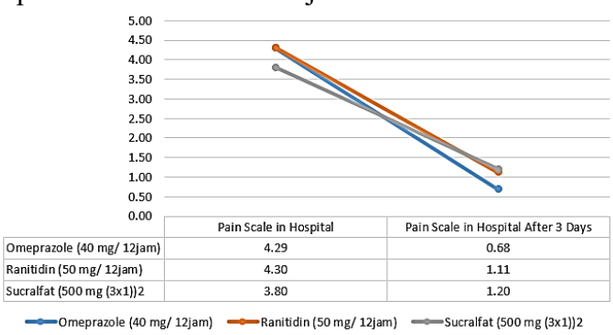


**Figure 1.** *Mean Differences Pain Scale*

The figure above shows a comparison of the mean pain scale between three pharmacological therapy treatment groups in gastritis patients, from the time of admission to after 3 days of therapy.

At the start of therapy, the Omeprazole group had the highest mean pain scale of 4.29, followed by the Ranitidine group with a mean of 4.30, and the Sucralfate group with a mean of 3.80. This indicates that the initial pain levels of patients in the Ranitidine and Omeprazole groups were nearly the same and slightly higher than those in the Sucralfate group.

After 3 days of therapy, there was a decrease in the mean pain scale in all groups. The omeprazole group showed the most significant reduction, with a mean pain scale of 0.68. The ranitidine group also showed a significant reduction, with a mean pain scale of 1.11. Meanwhile, the sucralfate group showed a decrease to a mean pain scale of 1.20. A comparison of the mean pain scale between groups after 3 days of therapy showed that the omeprazole.

The mean pain scale score upon hospital admission was 4.296 with a standard deviation of 0.609. After 3 days of therapy, the mean pain scale decreased to 1.111 with a standard deviation of 0.892. Significant decrease in the average scale This roup had the greatest pain reduction, followed by the ranitidine and sucralfate groups. This graph supports the conclusion that all three pharmacological therapies are equally effective in reducing pain in gastritis patients in the inpatient unit of RSUD Haji Makassar.

## DISCUSSION

This study found that female patients were at greater risk of developing gastritis compared to men, consistent with previous research reporting a higher prevalence among women (Feyisa & Woldeamanuel, 2021). This may be related to dietary habits, irregular eating patterns, prolonged fasting, and higher stress levels in women (Miranti & Salimi, 2024; Yektiningsih & Kurniyawan, 2017).

The age group most affected was 18–24 years (77.6%), suggesting that younger adults are more susceptible to gastritis. Contributing factors in this group include low socioeconomic status, frequent consumption of spicy foods, irregular exercise, and medication use (Feyisa & Woldeamanuel, 2021; Miranti & Salimi, 2024; Yektiningsih & Kurniyawan, 2017). These findings emphasize the need for preventive strategies targeting younger populations.

Omeprazole was the most frequently prescribed therapy (44.7%). As a proton-pump inhibitor (PPI), omeprazole has a longer duration of action compared to other anti-gastritis drugs, undergoes rapid absorption, binds strongly to plasma proteins, and is effectively metabolized in the liver. These pharmacological properties make PPIs highly effective in suppressing gastric acid secretion (Ahmed & Clarke, 2023; Syari & Sari, 2021). Ranitidine, prescribed in 35.5% of cases, acts through a different mechanism by blocking H2-receptors, while Sucralfate (19.7%) protects and repairs the gastric mucosa damaged by acid irritation.

Although all three therapies significantly reduced pain scores after three days of treatment, statistical analysis revealed no significant differences between them. This indicates that each drug can be considered effective in gastritis management. From a clinical perspective, this suggests that treatment selection may depend on factors such as patient condition, drug availability, cost, and potential side effects rather than efficacy alone, indicates that there is no significant difference in pain scale reduction between the two treatment groups. Limitations of this study include the relatively small sample size, single-center setting, and focus on patients aged 17–30 years, which may limit generalizability. Future studies with larger, more diverse populations are recommended to confirm these findings.

## CONCLUSION

This study concludes that gastritis was more prevalent among female patients, with the dominant age group being 18–24 years. Omeprazole was the most commonly used pharmacological therapy

compared to Ranitidine and Sucralfate. Pharmacological treatment proved effective in reducing gastritis symptoms, particularly pain levels, after three days of administration in the Inpatient Unit of RSUD Haji Makassar.

**REFERENCES**


Ahmed, A., & Clarke, J. O. (2023). *Proton Pump Inhibitors (PPI)* . StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK557385/

Alberts, C.J., Jeske, R., de Martel, C., den Hollander, W.J., Michel, A., Prins, M., Snijder, MB, Schim van der Loeff, M.F., & Waterboer, T. (2020). Helicobacter pylori seroprevalence in six different ethnic groups living in Amsterdam: The HELIUS study. *Helicobacter* , *25* (3), e12687.

Bimmahariyanto, DE, & Alpian, A. (2021). Analysis of Drug-Related Problems (DRPs) in Patients with Peptic Ulcers, Dyspepsia, and Gastritis at the NTB Provincial Hospital. *Indonesian Journal of Pharmacy* , *4* (1), 54–62. https://doi.org/10.36387/jifi.v4i1.657

Feyisa, Z.T., & Woldeamanuel, B.T. (2021). Prevalence and associated risk factors of gastritis among patients visiting Saint Paul Hospital Millennium Medical College, Addis Ababa, Ethiopia. *Plos One* , *16* (2), e0246619.

Firdous, J., Muhamad, N., Ab Latif, N., Syazwani, D., & Hidayah, N. (2016). A descriptive study on lifestyle factors influencing gastritis among university students of UniKL RCMP in Malaysia. *Indian Journal of Natural Sciences* , *6* (35), 10753–10756.

Maulahela, H., Doohan, D., Rezkhita, YAA, Syam, AF, Waskito, LA, Savitri, CMA, Richardo, M., Rahman, A., Namara, YS, & Shatri, H. (2024). Helicobacter pylori prevalence in Indonesia: Higher infection risk in Eastern region population. *F1000Research* , *11* , 1581.

Miranti, MT, & Salimi, A. (2024). Factors Influencing Gastritis Recurrence. *World Journal of Education* , *4* (4), 1488–1500.

Sjomina, O., Pavlova, J., Niv, Y., & Leja, M. (2018). Epidemiology of Helicobacter pylori infection. *Helicobacter* , *23* , e12514.

Smith, S., Fowora, M., & Pellicano, R. (2019). Infections with Helicobacter pylori and challenges encountered in Africa. *World Journal of Gastroenterology* , *25* (25), 3183.

Sriwijaya, RA, Lidia, L., & Ra'uf, OW (2022). Overview of Treatment and DRP's Gastritis in Adult Outpatients at Sungai Dua Community Health Center, Banyuasin Regency. *Lumbung Farmasi: Journal of Pharmaceutical Sciences* , *3* (1), 78–83.

Syari, DM, & Sari, H. (2021). Evaluation of the use of proton pump inhibitor drugs in outpatients with gastric disorders (gastritis) at home. *JIFI (Imelda Scientific Journal of Pharmacy)* , *5* (1), 1–4.

Widayat, W., Ghassani, IK, & Rijai, L. (2018). Treatment Profile and DRP'S in Patients with Gastric Disorders (Dyspepsia, Gastritis, Peptic Ulcer) at Samarinda Regional Hospital. *Journal of Science and Health* , *1* (10), 539–547.

Xu, Y., Chen, F., & Wen, H. (2024). Global incidence and prevalence of gastritis and duodenitis from 1990 to 2019: A systematic analysis for the Global Burden of Disease Study 2019. *Journal of Gastroenterology and Hepatology* , *39* (8), 1563–1570. https://doi.org/10.1111/jgh.16572

Yektiningsih, E., & Kurniyawan, C.B. (2017). Overview of Factors Influencing Gastritis Recurrence. *AKP Journal* , *5* (2).