THE EFFECT OF GUIDED IMEGERY ON ACUTE PAIN IN GASTRIC PATIENTS IN THE WORKING AREA OF THE REJOSARI HEALTH CENTER PEKANBARU

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Abstract

Acute pain in people with gastritis usually occurs suddenly and lasts for a relatively long time. Pain is one of the clinical manifestations experienced by Gastritis patients. This pain usually lasts minutes to less than six months and generally subsides once the root cause is treated or healed. Acute pain is pain that arises suddenly in response to an injury or by tissue damage. One therapy that can be done to relieve pain is Guided Imagery therapy. The general purpose of this study is to determine the effect of Guided Imagery therapy on acute pain in patients with Gastritis in the working area of the Rejosari Pekanbaru Health Center The design of this study is a pseudo-experiment (quasi - experiment) with a pre test and post test approach. The design in this study is an intervention group. This design was chosen to provide insight into the effects of treatment in a more realistic ANG context without randomization. The results of the Paired Sample T-Test and the Wilcoxon test obtained a p-value of <0.001 (<0.05), so Ho was rejected. This means that the results of the Paired Sample T-Test and Wilcoxon test showed a decrease in pre-test and post-test pain levels in gastritis patients before and after guided imagery therapy was carried out in the working area of the Rejosari Pekanbaru health center. This study shows that guided imagery therapy has a significant effect on reducing pain levels in patients with gastritis. The results of statistical analysis with the Paired Sample T-Test and the Wilcoxon test showed a decrease in pain levels after the intervention. Thus, this therapy can be one of the effective strategies in reducing the level of pain in gastritis sufferers.

Keyword: Gastritis; Acute Pain; Guided Imagery

INTRODUCTION

Acute pain in patients with gastritis often occurs suddenly and can persist for a considerable duration. It typically arises as a response to inflammation in the stomach area. Pain is one of the clinical manifestations experienced by gastritis patients, usually felt in the epigastric region. Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage [1]. Gastritis patients generally experience an increase in gastric acid that causes sharp or stabbing pain in the upper abdomen, leading to acute pain. Several factors contribute to acute pain in gastritis, including the consumption of irritant foods, physical or emotional stress, caffeine intake, and bacterial infection. Previous studies have identified various risk factors associated with gastritis. Achmad found that dietary habits, smoking, stress, age, and gender are significantly correlated with gastritis incidence. Similarly, Rahma reported that dietary patterns, meal frequency, coffee consumption, smoking, use of non-steroidal anti-inflammatory drugs, and family history of gastritis are major risk factors [2]. These factors indicate the need for non-pharmacological therapies. Such therapies focus on modifying thought patterns into positive coping mechanisms to promote relaxation and emotional stability. Non-pharmacological pain management involves physical, psychological, and alternative approaches aimed at alleviating symptoms and improving quality of life. Relaxation breathing, distraction, guided imagery, progressive muscle relaxation, effleurage

massage, warm compresses, and finger-holding relaxation are among the effective techniques [3].

One of the most commonly applied non-pharmacological methods to reduce pain is Guided Imagery Therapy. Guided imagery is a relaxation and stress management technique that encourages individuals to visualize calming scenes or experiences to induce a deep state of relaxation. It has been shown to reduce pain, lower blood pressure, decrease cholesterol and glucose levels, and enhance cellular activity. This technique helps patients shift their focus toward pleasant imagery under the nurse's guidance, thereby reducing perceived pain [4]. Guided imagery is also known to stimulate the release of endorphins, promoting comfort and reducing pain intensity [5].

According to the World Health Organization (WHO), the global incidence of gastritis ranges from 1.8 to 2.1 million cases annually [6]. The prevalence rates reported include 22.0% in the United Kingdom, 31.0% in China, 14.5% in Japan, 35.0% in Canada, and 29.5% in France. In South Asia, approximately 583,635 people are affected each year. In Shanghai, the endoscopically confirmed prevalence of gastritis is about 17.2%, significantly higher than the 4.1% asymptomatic rate in Western populations [7]. In Indonesia, WHO reported that gastritis prevalence reached 40.8% in 2022, accounting for 274,396 cases out of 238,452,952 people [6].

RESEARCH METHODS

This study employed a quantitative research design. Quantitative research is an approach to investigating social phenomena based on the testing of theories consisting of measurable variables analyzed statistically to verify predictive generalizations [8]. The focus of quantitative research lies in collecting and analyzing numerical data to develop mathematical models, theories, and hypotheses related to specific phenomena, emphasizing the relationships between variables within a population.

The design used in this study was a quasi-experimental design with a *pre-test and post-test nonequivalent control group* approach. This design included both an intervention group and a control group, chosen to provide insights into the treatment effects within a realistic context without randomization.

The population of this study consisted of all patients diagnosed with gastritis in the working area of Rejosari Public Health Center, Pekanbaru City, with an estimated average of 100 patients per year. The sample size was determined using the Lemeshow formula for proportion estimation, resulting in 30 respondents. Sampling was conducted using a purposive sampling technique, where participants were selected based on specific inclusion criteria.
The research instrument used was an observation sheet designed to record participants' identities and relevant data related to the study variables.

RESEARCH RESULTS

A. Univariate Analysis

Univariate analysis is used to obtain data regarding the characteristics of the respondents. The univariate results obtained in this study are as follows:

Table 1. Characteristics of Acute Pain Patients with Gastritis in the Working Area of Rejosari Public Health Center, Pekanbaru

NO	Characteristics	Frequency	Percentage (%)
1.	**Gender**		
	b. Woman	30	100
	Total	**30**	**100%**
2	**Age**		
	a. Early Adulthood (26-35 years old)	10	33.3
	b. Late Adulthood (36-45 years old)	4	13.3
	c. Early Elderly (46-55 years old)	16	53.3
	Total	**30**	**100%**
3	**Final Education**		
	a. Elementary School	3	10.0
	b. Junior High School	14	46.7
	c. Senior High School	10	33.3
	d. No formal education	3	10.0
	Total	**30**	**100%**
4	**Work**		
	Homemaker	24	80.0
	Self-employed	6	20.0
	Total	**30**	**100%**
5	**Long Suffering from DM**		
	a. <1 year	3	17.6
	b. 1-5 years	11	64.7
	c. > 5 years	3	17.6
	Total	**17**	**100%**

(Source: Primary Data Analysis 2025)

Table 1 shows the characteristics of respondents with acute pain due to gastritis in the Rejosari Health Center area. Most respondents were in the early adult age group (26–35 years) with 10 people (33.3%), followed by late adults (36–45 years) with 4 people (13.3%), and early elderly (46–55 years) with 16 people (53.3%). All respondents were female (100%). Regarding education level, most had junior high school education (46.7%), followed by senior high school (33.3%), elementary school (10.0%), and no formal education (10.0%). The majority of respondents were housewives (80.0%), while the rest were self-employed (20.0%).

Table 2. Average Blood Sugar Levels Before and After Binahong Leaf Decoction Intervention in DM Patients

Variabel	N	Mean	Min-Max	SE	SD
Intervention Groups			5-7		
Pre Test	30	6.03		.155	.850
Pre Test			1-6		
	30	3.43		.233	1.278

(Source: Primary Data Analysis, 2025)

Based on Table 2, the mean pre-test score of acute pain among gastritis patients before receiving guided imagery therapy was 6.03, and the mean post-test score after the therapy was 4.90. This indicates that guided imagery therapy had an effect on reducing acute pain in gastritis patients, as shown by the decrease in the mean score from pre-test to post-test.

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Table 3. Tests Of Normality

	Kolmogorov-Smirnov			***Shapiro-Wilk***		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pretest	.239	30	<.001	.786	30	<.001
Posttest	.266	30	.034	.840	30	.092

(Source: Primary Data Analysis 2025)

Table 3 shows that the Shapiro-Wilk test results for both the pre-test and post-test values are 0.092, which is greater than 0.05. This indicates that the data are normally distributed, and therefore, the Wilcoxon test was performed.

Table 4. Wilcoxon Signed-Rank Test

		N	***Mean Rank***	***Sum of Ranks***	***P-Value***
Posttest Pretest	Negative Ranks	30	15.50	465.00	<0,001
	Positive Ranks	0	0.00	0.00	
	Ties	0			
	Total	30			

(Source: Primary Data Analysis 2025)

Based on Table 4, the results of the Wilcoxon Signed-Rank Test showed a change in scores between the pre-test and post-test. The positive ranks with an N value of 30 indicate that all respondents experienced a decrease in gastritis pain intensity.

Table 5. The Effect of Guided Imagery on Acute Pain in Gastritis Patients at the Rejosari Public Health Center, Pekanbaru

The Effect of Guided Imagery on Acute Pain in Patients with Gastritis	N	Mean	Δ	*p-value*
Pre Test – post Test	30	2.600	2,60	<0,001

(Source: Primary Data Analysis 2025)

Based on Table 5, the results of the Paired Sample T-Test showed that the pre-test and post-test values in the intervention group were <0.001. These results indicate that guided imagery therapy is effective in reducing pain intensity in patients with gastritis in the working area of Rejosari Health Center, Pekanbaru.

DISCUSSION

A. Univariate Analysis

1. General Data

a. Gender

Based on the findings of this study, all respondents in the intervention group were female (100%). Gender plays a significant role in determining an individual's nutritional adequacy, as women are more likely to experience difficulties in fulfilling their daily requirements for vitamins and minerals according to their caloric needs. Psychological stress is another contributing factor that can trigger irritation of the gastric mucosa through increased gastric acid secretion. Prolonged exposure to stress may exacerbate mucosal damage, ultimately leading to pain symptoms among patients with gastritis [9].

Moreover, fluctuations in estrogen levels among women have been shown to influence gastrointestinal function, thereby increasing the risk of acute pain episodes in individuals with gastritis. During the menstrual cycle, estrogen fluctuations stimulate excessive gastric acid production, with approximately 85% of women experiencing increased gastric acidity before or during menstruation as a result of hormonal changes. These hormonal imbalances can also disrupt bile secretion, contributing to digestive disturbances and aggravation of gastritis symptoms [10].

Previous research has also demonstrated that women generally report higher pain intensity than men. This difference is attributed to biological factors, such as hormonal variation, and psychological aspects, including elevated anxiety levels that enhance pain perception. Furthermore, differences in physical activity and lifestyle patterns between men and women may influence both the risk and severity of gastritis. Taken together, estrogen fluctuations, variations in pain perception, and lifestyle-related factors contribute to the higher susceptibility and intensity of acute pain among female gastritis patients [11].

b. Age

Based on the research findings, all respondents in the intervention group were female (100%). Gender differences, particularly hormonal variations, play a significant role in influencing the occurrence and intensity of pain among gastritis patients. Changes in estrogen levels in women can affect the digestive system by increasing gastric acid

secretion and causing irritation of the gastric mucosa, especially during periods of hormonal fluctuation such as the menstrual cycle [9]. According 85% of women experience an increase in gastric acid before or during menstruation, which may lead to the recurrence of gastritis symptoms and acute pain [10].

Furthermore, women are more likely to perceive pain with greater intensity compared to men due to both biological and psychological factors, such as hormonal fluctuations and higher levels of anxiety [11]. Lifestyle and physical activity differences also contribute to the varying severity of gastritis symptoms. Therefore, it can be concluded that hormonal imbalance, stress response, and lifestyle factors collectively increase the risk and intensity of acute pain among female gastritis patients.

c. Education

Based on the results of this study, the majority of respondents with gastritis had a junior high school education level, totaling 14 individuals. A lower educational level is often associated with occupations that require physical labor or involve high stress. Such conditions can lead to prolonged stress, which is a known risk factor for gastritis because it increases gastric acid production. The combination of irregular eating patterns and high stress levels further elevates the risk of developing gastritis [12].

One of the main contributing factors is the limited understanding of the importance of maintaining a healthy lifestyle. Individuals with lower education levels often have reduced access to adequate health information, which can result in unhealthy eating habits such as skipping breakfast, consuming unhealthy foods, or frequently eating spicy, fatty, and acidic foods that may trigger gastritis [13].

According to the researcher's assumption, an individual's educational level can influence their ability to receive and comprehend information about gastritis. The higher a person's level of education, the greater their ability to understand and apply knowledge related to gastritis management.

d. Employment

Economic factors also play an important role. Individuals with a junior high school education level often have limited job opportunities, leading to lower income. This condition may affect their ability to purchase nutritious food or access healthcare services necessary for the prevention and treatment of gastritis [14].

Employment has a significant impact on health, including the risk of acute pain among patients with gastritis. Several mechanisms explain this relationship, such as work-related stress, irregular eating patterns, and unhealthy habits resulting from job pressure. Physically and mentally demanding jobs can greatly contribute to the occurrence of acute pain in gastritis patients. Physical fatigue, in particular, plays a crucial role in worsening this condition. Therefore, it is essential for individuals who are prone to gastritis to manage stress, maintain regular eating patterns, and achieve a healthy work-life balance to prevent symptom aggravation [15].

According to the researcher's assumption, employment has a considerable influence on health, particularly in increasing the risk of acute pain among gastritis patients. This association is primarily explained by factors such as occupational stress, irregular eating habits, and unhealthy lifestyle patterns related to work demands.

2. Mean Acute Pain Scale Before and After Guided Imagery Therapy in Gastritis Patients at Rejosari Health Center, Pekanbaru

The results of this study showed a significant difference in the mean acute pain scores before

and after the implementation of guided imagery therapy in gastritis patients. The mean pre-test score was 6.03, while the mean post-test score after guided imagery therapy decreased to 4.90. These findings indicate that guided imagery therapy has a significant effect in reducing acute pain among gastritis patients, as evidenced by the difference between pre-test and post-test scores. This result aligns with with previous research, which stated that guided imagery is an effective non-pharmacological method to reduce pain without side effects. During guided imagery therapy, the patient's mind is redirected toward positive and pleasant thoughts. This process requires concentration and focus, allowing pain perception to gradually decrease, resulting in greater relaxation and comfort for the patient [16]. Similarly, another study found that guided imagery is more effective in reducing pain intensity compared to deep breathing techniques [17]. A study published in the *Journal of Pain and Symptom Management* also reported that patients with chronic pain who practiced guided imagery experienced a more significant reduction in pain intensity than those who used deep breathing alone. According to the researcher's assumption, guided imagery serves as a safe and effective therapy to alleviate pain by shifting patients' attention to positive and calming mental images, thereby promoting relaxation and reducing discomfort among gastritis patients.

B. Bivariate Analysis

The results of the *Paired Sample T-Test* showed that both pre-test and post-test values in the intervention group had a significance level of p = 0.000 (<0.05), indicating that the null hypothesis (Ho) was rejected. Thus, it can be concluded that *guided imagery therapy* is effective in reducing pain intensity among patients with gastritis at the Rejosari Health Center, Pekanbaru.

According previous studies, non-pharmacological interventions that can be used to reduce pain include distraction, deep breathing relaxation techniques, guided imagery, progressive muscle relaxation, effleurage massage, warm compresses, and finger relaxation techniques [5]. This finding who stated that guided imagery is one of the most commonly applied non-pharmacological methods to alleviate pain [3].

Guided imagery is a relaxation and stress management technique in which individuals are guided to imagine or visualize calming scenes, places, or situations to achieve a deep state of relaxation. This technique has been shown to reduce pain, lower blood pressure, cholesterol, and glucose levels, and enhance cellular activity. In practice, guided imagery helps patients redirect their thoughts toward positive and pleasant imagery as instructed by healthcare providers, which in turn decreases their pain perception [4].

According to the researcher's assumption, non-pharmacological interventions such as distraction, deep breathing relaxation, guided imagery, progressive muscle relaxation, effleurage massage, warm compresses, and finger relaxation can be effective in reducing pain intensity among gastritis patients.

CONCLUSION

The study found that most respondents in the intervention group were early adults (26–35 years), and all were female (100%). Most had junior high school education (46.7%) and worked as housewives (80%). The mean pain score before the intervention was 6.03 and decreased to 4.90 after Guided Imagery therapy. The Paired Sample T-Test showed a p-value of 0.000 ($p < 0.05$), indicating that Guided Imagery effectively reduced acute pain among gastritis patients at Rejosari Health Center, Pekanbaru.

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