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Self Hand Manipulation Using Su-Jok For Heartburn in Adults

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Abstrak

Dispepsia fungsional mempengaruhi 24-40% orang dewasa di Indonesia, sering disertai dengan nyeri ulu hati. Di Puskesmas Lempake Samarinda, nyeri ulu hati merupakan keluhan ketiga yang paling umum di klinik rawat jalan, 765 kasus dilaporkan antara Januari dan Agustus 2024. Keluhan nyeri ulu hati dapat dikelola sendiri dengan menggunakan manipulasi tangan melalui terapi Su-Jok. Penelitian ini bertujuan untuk mengevaluasi efektivitas intervensi komplementer Su-Jok untuk meredakan nyeri ulu hati pada orang dewasa. Penelitian ini menggunakan desain uji coba non-randomized tanpa kelompok kontrol dari pasien yang mengunjungi klinik. Data dikumpulkan melalui wawancara terstruktur menggunakan kuesioner dan Numerical Rating Scale (NRS) nyeri sebelum dan sesudah intervensi kepada pasien yang mengalami nyeri ulu hati non-komplikasi. Penelitian ini melibatkan 22 responden berusia 19 hingga 55 tahun, dengan 75% berjenis kelamin perempuan. Dilakukan analisis menggunakan uji Wilcoxon, yang menunjukkan perbedaan NRS yang signifikan secara statistik sebelum dan sesudah penerapan Su-Jok, dengan nilai-p <0,001. Temuan ini menunjukkan bahwa manipulasi tangan melalui SuJok dapat secara signifikan meringankan gejala sakit dispepsia tanpa komplikasi. Oleh karena itu, terapi Su-Jok dapat dianggap sebagai pilihan pengobatan awal atau tambahan untuk nyeri ulu hati, yang berpotensi meringankan keluhan sebelum pasien mencari intervensi medis lebih lanjut.

Kata Kunci: Nyeri Ulu Hati, Su-Jok, manipulasi tangan, terapi komplementer, uji coba nonrandomized

Abstract

Functional dyspepsia affects 24–40% of adults in Indonesia and is frequently associated with heartburn. At the Lempake Community Health Center in Samarinda, heartburn ranked as the third most common outpatient complaint, with 765 reported cases between January and August 2024. This study aimed to evaluate the effectiveness of Su-Jok therapy as a complementary intervention for alleviating heartburn symptoms. A nonrandomized trial without a control group was conducted among clinic patients. Data were collected through structured interviews and a Numerical Rating Scale (NRS) of pain, administered before and after the intervention in patients with non-complicated heartburn. The study included 22 respondents aged 19 to 55, of whom 75% were female. Analysis using the Wilcoxon test showed a statistically significant reduction in NRS scores following Su-Jok therapy (p < 0.001). These findings suggest that Su-Jok hand manipulation effectively reduces subjective heartburn symptoms and may serve as a practical initial or complementary treatment. Su-Jok therapy offers a non-invasive, accessible option for managing heartburn, potentially reducing symptoms before the need for further medical intervention.

Keywords: Heartburn, Su-Jok, hand manipulation, complementary therapy, non-randomized trial

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INTRODUCTION

The International Association for the Study of Pain (IASP) defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage (Raja et al., 2020), which is basically subjective and influenced by various biological, psychological, and social factors. It can be categorized based on duration, anatomical location, etiology, intensity, and pathophysiology. Abdominal pain comes from structures within the abdomen and may be classified as visceral (originating from pain the visceral peritoneum), somatic pain (from the abdominal wall muscles or parietal peritoneum), or neuropathic pain (resulting from nerve damage or dysfunction) (Mehta, 2016). Factors contributing to pain include physical injury, inflammation, metabolic disorders, infections, or chronic medical conditions (Raja et al., 2020).

Heartburn is a common type of pain linked to digestive tract disorders, particularly involving the stomach and esophagus (Yamasaki, O'Neil, & Fass, 2017). It is often associated with functional dyspepsia, where patients experience epigastric pain despite the absence of structural abnormalities in the digestive tract. Functional dyspepsia may result from impaired gastrointestinal motility, visceral hypersensitivity, disrupted or communication between the gut and brain (Madisch et al., 2018).

Heartburn is a prevalent condition in Indonesia, often associated with functional dyspepsia. Studies indicate that up to about 50% of adults in Indonesia experience functional dyspepsia in various regions (Huang et al., 2020). Complaints of heartburn are frequently accompanied by symptoms such as nausea and a burning sensation in the chest (Syam et al., 2023). At the Lempake Health Center in Samarinda. during the patient visits between January and August 2024, dyspepsia ranked as the third most common condition, with 765 reported cases.

Heartburn typically occurs due to gastroesophageal reflux, which causes irritation to the stomach or esophageal mucosa. This irritation results in pain transmitted to the brain via the vagus nerve and nociceptors in the stomach lining, presenting as epigastric discomfort (Futagami et al., 2011). This pain is triggered by chemical stimuli such as stomach acid or other irritants (Raja et al., 2020). When excessive reflux occurs, the acid can rise into the esophagus, leading to mucosal irritation and a burning sensation (Barlow & Orlando, 2005).

The main components of heartburn management include lifestyle changes, pharmacological therapies, and, if necessary, surgical interventions. Pharmacological treatments often involve medications like proton pump inhibitors (PPIs) and H2 receptor antagonists to reduce stomach acid production (Vakil, van Zanten, Kahrilas, Dent, & Jones, 2006). Nonetheless, complementary therapies are gaining popularity, especially among patients seeking alternatives to chemical medications (Yang et al., 2021). Yoga and meditation. example, for are often suggested complementary approaches for stress- and anxiety-related heartburn. Research suggests that breathing exercises and specific yoga postures can relax the stomach muscles, improve intestinal motility, and alleviate symptoms of dyspepsia and reflux (Setia et al., 2023).

One emerging complementary therapy is Su Jok therapy, which involves stimulating points on the hands and feet that correspond to various body organs. including the stomach (Nurjannah & Hariyadi, 2021). For individuals with heartburn, Su Jok therapy targets specific points to alleviate pain and improve digestive function. While more clinical studies are needed to validate its efficacy, initial research indicates that combining Su Jok with conventional medical treatments can enhance symptom management for heartburn. Therefore, Su Jok is a safe, noninvasive complementary option for managing this condition.

Given the limited research on Su Jok therapy for heartburn, this study was conducted to seek whether Su Jok is effective in alleviating heartburn pain. The findings could contribute valuable insights into the integration of Su Jok therapy into broader treatment strategies, especially in Lempake Community Health Center where the cases were quite prevalent.

METHOD

This is a quasi-experimental design study using a pretest-posttest method without control group. The study was conducted at the Lempake Health Center, Samarinda from October to November 2024. The participants were patients from the center who experienced heartburn and excluding those with signs of inflammation, injury, or lumps at the massage site and having history of neurological disorders. Participants were selected using purposive sampling, with an estimated minimum sample size of six patients determined based on Cochrane's formula for one group sample size calculation.

The Numeric Rating Scale (NRS) (Nugent, Lovejoy, Shull, Dobscha, & Morasco, 2021) was used to measure heartburn intensity before and after the intervention. This scale, ranging from 0 to 10, effectively quantified pain intensity, where 0 indicated no pain, 1–3 signified mild pain, 4–6 denoted moderate pain, and 7–10 represented severe pain. The NRS was chosen because it was simple, easy to understand, and well-suited for tracking changes in pain levels.

The study procedure began after participants provided informed consent. Researchers explained the study process and demonstrated the hand manipulation technique (massage) to the participants, allowing them to practice independently under supervision. Before the intervention, participants completed а pre-test questionnaire, followed by the intervention involving hand manipulation. The massage began by warming the hands through palm rubbing and focused on applying firm pressure to all fingers and the palm, starting from the thumb and moving from the proximal to the distal regions, targeting the corresponding reflex zones. Each session lasted 7–10 minutes, with additional attention given to the most painful areas for one minute each. After the massage,

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participants completed a post-test questionnaire.

Analysis was conducted using the Wilcoxon signed-rank test. All statistical analyses were conducted using IBM SPSS Statistics 26. Significance was set if p-value less than 0.05.

RESULT AND DISCUSSION

Table 1. Patient characteristics

Characteristics	Frequency (percentage) N=22
Age (years)	
16 - 25	4 (18.2)
26 - 35	3 (13.6)
36 - 45	7 (31.8)
46 - 55	6 (27.3)
56 - 65	1 (4.5)
> 65	1 (4.5)
Female	17 (77.3)
Occupation	
Housewife	11 (50.0)
Private employee	4 (18.2)
Self employed	3 (13.6)
Governmentemployee	2 (9.1)
Student	2 (9.1)

We found 22 respondents from the Lempake Community Health Center, as described in Table 1, where it showed that the highest proportion of heartburn cases occurred in the 36–45 age group, accounting for 31.8% (7 respondents). These findings align with research by Kovács et al. (2022), which identified the highest prevalence of dyspepsia among patients aged 25–44 years. Similarly, a study by Rahman et al. (2021) reported that 75% (174 respondents) of individuals under 50 years old experienced functional dyspepsia. Dyspepsia is common among young and middle-aged adults, particularly during their most productive years when they are often exposed to risk factors like poor diet, work-related stress, and unhealthy lifestyles. Approximately 90% of dyspepsia cases in younger populations are linked to eating habits and behaviors, while the remaining 10% are associated with Helicobacter pylori infection (Rahayu, Sihombing, & Pertiwi, 2023).

Furthermore, heartburn was more prevalent among female respondents, consistent with findings by Anglena, Maulani, and Dasuki (2024) which showed that 68.8% of dyspepsia patients were female. Similarly, Lestari, Arbi, and Maidar (2022) reported that 71.7% of their respondent's experiencing dyspepsia were women. Hormonal factors, particularly estrogen, are believed to play a significant role in dyspepsia (Kim & Kim, 2020). Estrogen impacts gastrointestinal motor and sensory functions through immune, endocrine, and neuronal pathways, as well as through interactions with gut microbiota. Studies have shown that estrogen can slow gastric emptying during the luteal phase compared to the follicular phase or in men. Estrogen also influences visceral pain perception, interacts with neurotransmitters in pain pathways, and affects emotional and cardiovascular regulation.

Based on the occupational characteristics, the study found that half of the participants were housewives. This finding aligns with previous studies that identified housewives as having a higher risk of dyspepsia. Research by Rahman et al. (2021) found that 60.3% of dyspepsia cases involved housewives. Another study by Joko, Agus, and Saryono (2006) showed

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that individuals who are unemployed have a significantly higher prevalence of dyspepsia (64.29%) compared to those employed in the public or private sectors. This may be due to higher stress levels in individuals without formal employment, which can lead to increased stomach acid production and elevate the risk of dyspepsia (Sander et al., 2011).

Table 2. Numerical rating scale (NRS) ofpain before and after Su Jok intervention

NRS	Befor	After	p-
	e		value
Frequency [n (percentage)]			
Severe	5	1	
	(22.7)	(4.5)	
Moderate	16	11	
	(72.7)	(50.5)	
Mild	1	10	
	(4.5)	(45.5)	
Median	5	4	<
(minimum;	(3.8)	(2.7)	0.001
maximum)			

Based on Table 2, the intensity of heartburn among 22 respondents before the intervention showed that the majority experienced moderate pain (72.7%, 16 respondents), followed by severe pain (22.7%, 5 respondents), and mild pain (4.5%, respondent). After 1 the intervention. there was a notable improvement: the number of respondents with moderate pain decreased to 50.5% (11 respondents), mild pain increased to 45.5% (10 respondents), and only 4.5% (1 respondent) continued to experience severe pain. These findings align with a study by

Billa, Ismail, and Abdullah (2023) which demonstrated a reduction in epigastric pain intensity after hand manipulation therapy. Similarly, Silpia, Nurhayati, and Febriawati (2021) reported that before Su Jok intervention, 7 respondents experienced moderate pain and 8 reported severe pain, whereas after the intervention, 13 reported mild pain and 2 experienced no pain at all.

Statistical analysis was conducted to evaluate the effectiveness of the intervention. The Wilcoxon signed-rank test was used for hypothesis testing. As shown in Table 2, the analysis revealed a statistically significant difference in NRS (Numeric Rating Scale) scores before and after the intervention, with a p-value < 0.001. These results are consistent with findings from Nurjannah and Hariyadi (2021) which reported a significant reduction in pain levels following Su-Jok therapy. Billa et al. (2023) also found a significant reduction in heartburn intensity after hand manipulation therapy. The underlying mechanism these effects involves stimulating specific points on the hands, triggering complex bodily responses (Güneş & Karabulutlu, 2024). Applying pressure to these points activates reflex zones, prompting impulses directed at healing the affected organs. Additionally, the manipulation stimulates the production endorphins-natural pain-relieving of chemicals released by the endocrine system. This dual mechanism contributes to pain relief, including the alleviation of heartburn symptom.

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CONCLUSION

This study concludes that Su Jok self-hand manipulation is significantly effective for reducing heartburn pain symptoms (p<0.001) in adults at the Lempake Community Health Center

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