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The Effect of Warm Compress Therapy on Reducing Gastritis Pain: A Literature Review

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Abstract

Gastritis is an inflammation of the gastric mucosa caused by irritation and infection factors from increased stomach acid. One way to treat gastritis is with non-pharmacological therapy, namely warm compresses. Giving warm compresses is an action to stimulate the skin and tissue to reduce pain, increase comfort and get other therapeutic effects through exposure to heat. The purpose of this case study was to determine the effect of warm compresses on acute pain in gastritis patients. This research method uses a systematic literature review method, searching with an electronic database. The inclusion criteria used were articles with gastritis patients who experienced mild, moderate, severe pain that could be accessed in full text and the research was described in the PICOT analysis. The journal years used were limited to 2019-2024. The results based on a literature review of 7 journals found a decrease in pain in respondents after warm compresses were given. Warm compresses can reduce muscle spasms and provide comfort to patients. It can be concluded that giving warm compresses has an effect on reducing pain in gastritis patients.

Keywords*: Gastritis, Pain, Warm compresses*

Introduction

Gastritis comes from the word "gaster" which means stomach and "itis" which means inflammation. Gastritis or often known as ulcer disease is an inflammation of the gastric mucosa which can be acute, chronic, diffuse, or local. Gastritis is an inflammatory process or health disorder caused by irritation and infection factors in the gastric mucosa and submucosa[1, 2].

Gastritis is a disease that triggers an infection that occurs in the gastric mucosa caused by Mycobacterium and Helicobacter pylori, usually characterized by nausea, vomiting, pain in the pit of the stomach, and also headaches. Chronic gastritis is associated with the duration of signs and symptoms that persist. Acute gastritis is an infection of the gastric mucosa and lasts for less than a month and occurs suddenly. While chronic gastritis is an infection of the gastric mucosa that lasts for more than a

month and occurs gradually. This degenerative disease generally occurs due to a messy lifestyle. One of these degenerative diseases that occurs due to a messy lifestyle is gastritis. Gastritis is one of the main factors in public health events in both developing and underdeveloped countries[3, 4].

Gastritis cases show quite high numbers in various countries. According to the World Health Organization (2022), the incidence of gastritis in the world reaches 1.8 million to 2.1 million people each year. In Southeast Asia alone, the incidence of gastritis is around 583,635 of the population each year[5]. The incidence of gastritis in Indonesia reaches 40.8%. The incidence of gastritis in several regions in Indonesia is also quite high with a prevalence of 274,396 cases out of 238,452,952 people. Based on data obtained from the Jambi Provincial Health Office, the percentage of gastritis incidence in 2020 in Jambi Province was around 11,228 cases (5,75%)[6, 7].

The main problem that needs to be addressed in gastritis patients is stomach pain. The occurrence of pain in gastritis patients begins when secretion occurs from the dorsal motor nucleus, passing through the vagus nerve to the stomach wall in the enteric nervous system, so that the mucosa in the gastric antrum secretes the hormone gastrin and stimulates parietal cells which later produce excessive hydrochloric acid so that irritation occurs in the gastric mucosa. Management of gastritis patients is to reduce the symptoms experienced by patients, there are two ways of managing gastritis patients, namely pharmacology and non-pharmacology[8].

Another alternative to overcome this problem from the nursing side can be done with one of the non-pharmacological therapies that can be used to relieve pain, namely warm compresses. Warm compresses have a positive effect on reducing pain intensity in gastritis patients, because they can reduce spasms in fibrous tissue, relax body muscles, improve blood flow, and provide comfort to patients. Warm compresses are also useful for reducing stress or mental tension which is one way to prevent and reduce pain. Warm compresses are an intervention used to reduce pain intensity in gastritis patients with complaints of heartburn[9].

According to the research results (Siti Padilah, Suhanda, et al., 2022), the results of the intervention by providing warm compresses using a bottle filled with warm water which was carried out for 10-15 minutes within 3 days, namely, before the intervention the pain scale was 5, after the intervention on the first day, the pain decreased, from a scale of 5 reduced to 3. The intervention was carried out again on

the second day, before the intervention the pain scale was 3, after the intervention on the second day the pain had greatly decreased (the pain scale changed to 2), only occasionally felt but not all the time. On the third day, before the intervention the pain scale was 2, after the intervention on the third day the pain was almost no longer felt, only occasionally occurring with a pain scale of 0. It can be concluded that there is an effect of complementary therapy of warm water compresses on reducing the pain scale in gastritis patients in the Dahlia Room, Banjar City Hospital[10, 11].

From the background description above, the author is interested in compiling a literature review regarding "The Effect of Giving Warm Compress Therapy on Reducing Pain in Gastritis Patients".

Methods

This research method uses systematic literature review. Literature review is an exposition that describes theories, research results, and other reference materials taken from various reference sources. A systematic, clear, comprehensive literature study by identifying, analyzing, evaluating through the collection of existing data[12].

The aim is to form a research foundation and build a solid framework for formulating research problems to be investigated. The author conducts a critical and in-depth summary, analysis, and synthesis of previous literature.

This study is guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow which starts from identifying the problem to be reviewed, searching for articles using an electronic database through the PubMed journal portal, GARUDA, Google Scholar, Google search and others with keywords: "warm compress", "pain", "gastritis" then conducting journal screening based on the years 2019-2024 which can be accessed in full text in pdf format and in accordance with the inclusion criteria then the results of the study are described in a PICOT analysis for further review.

The study in the study emphasized gastritis respondents who experienced mild, moderate, severe pain who were given warm compresses to determine the effect on changes in pain felt by patients, the study design in the reviewed articles included pre-experiment, experimental, quasi-experiment.

Results

After searching and screening. Screening is the filtering of articles so that 7 articles are obtained in full text form. After screening, relevant information is obtained and can be analyzed further.

Table 1. Literature Review of Warm Compress Therapy for Reducing Pain in Gastritis Patients

No	Journal Title	Population	Intervention	Comparation	Outcome	Time
1.	The effect of warm compresses on reducing pain in gastritis patients in the Emergency Room of Bhayangkara Hospital Class III Manado Authors: 1. Noviaty Labagow, 2. I Made Rantiasa 3. Faradilla M. Suranata Health Journal: Amanah Nursing Science Study Program, MUHAMMADIYAH HEALTH COLLEGE, MANADO. Vol. 6, No. 1 (2022)	The population in this study were 128 patients with acute gastritis during the last 1 month in the Emergency Room (IGD) of Bhayangkara Hospital Level III Manado. The sample in this study was 13 people using accidental sampling.	The intervention given in this journal is the provision of warm compresses given to gastritis patients who meet the respondent criteria.	The comparison carried out was the Pre-Post Test Design, to measure the pain scale at the beginning once (Pre Test) before being given treatment (Treatment) which in this case was a warm compress, then after being given treatment (Treatment) the measurement was carried out again once (Post Test).	Based on the research that has been done before being given a warm compress, it was found that most respondents experienced moderate and severe pain when feeling gastritis pain. After being given warm compress therapy, it was in the category of mild pain and moderate pain. Seen from the average pre-test pain scale, which was 5.77 or in the category of moderate pain and the average post-test pain scale was 4.08 or moderate pain and there was a difference of 1,692 which showed that there was a difference in the pre- and post-test pain scales where there was a decrease in the pain scale. From the results of the Paired T-Test, it can be seen that there was a change in the level of pain before warm compresses were given and after warm compresses were given. The t count was 12,702 and df was 12 compared to the t table, which was 1,782, so the t count> t table and the ρ Value value was 0.000 where ρ Value> α = 0.05 so it can be concluded that Ha is accepted and Ho is rejected which means there is an effect of warm compresses on reducing pain in gastritis patients.	15 Juli – 30 Juli 2021
2.	Application of Warm Compresses in Reducing Pain Scale in Gastritis Clients Authors:	The subjects in this study were 2 clients with a medical diagnosis of gastritis who met the inclusion and	The application of warm compresses was carried out for 3 days of treatment for each respondent	The comparison made was the measurement of pain before and after warm compresses were given.	Based on the results of the study on the application of warm compresses to reduce the pain scale in gastritis clients in the Melati Room of Dr. Soekardjo Regional Hospital, Tasikmalaya City before being given warm compress therapy	21-23 April 2022

No	Journal Title	Population	Intervention	Comparation	Outcome	Time
	1. Shelby Indah Cantika P 2. Syaukia Adini 3. Arip Rahman Nursing Care and Health Technology Journal, Vol. 2, No. 1 (2022)	exclusion criteria.	and was carried out twice a day.		using the Numerical Rating Scale (NRS) pain scale measuring tool, it was found that of the two respondents, both experienced moderate pain (4-6), namely client 1 was on a scale of 4 and client 2 was on a scale of 5. Based on the results after being given warm compress therapy using the Numerical Rating Scale (NRS) pain scale measuring tool, it was found that for 3 days the two gastritis respondents experienced a decrease in the pain scale, namely on a scale of 0 (no pain).	
3.	Application of Warm Compresses to Pain in Gastritis Patients Authors: 1. Isti Khomariyah 2. Sapti Ayubbana 3. Nury Luthfiyatil Fitri Jurnal Cendikia Muda, Vol.1, No.1 (2021)	The subjects used in the case study were patients with Gastritis disease consisting of 1 patient with pain.	The intervention given was the provision of warm compresses for 1 day.	The comparison made was the measurement of pain before and after warm compresses were given.	The results of the application showed that after giving a warm compress for 1 day, there was a decrease, namely before the warm compress the pain scale was 6 (moderate pain) and after the warm compress the pain scale became 3 (mild pain).	2021
4.	Application of Warm Compresses in Reducing Acute Pain in Gastritis Patients at Dr. Wahidin Sudiro Husodo Regional Hospital, Mojokerto City Authors: Sri Rahayu Wilujeng, Giska Aprilia, Sutrika Anggraini, Andriyani Mubarokah, Tri Arianti Wahyu Lestari, Zulfri Rizky Arifiawan, Mytra Mangisi Agung Sukardi, Mudrikah	The case subjects were 2 patients with acute gastritis pain.	The intervention given was the provision of warm compresses using a bottle filled with warm water for 10-15 minutes over 3 days.	The comparison made was the measurement of pain before and after warm compresses were given.	The results of giving warm compresses for 3 days were, before the intervention scale 5 (moderate pain), After the implementation on the 1st day, the pain decreased, from a scale of 5 to 3. The intervention was carried out again on the 2nd day, the pain had greatly decreased (the pain scale changed to 2), only occasionally felt but not all the time. On the 3rd day the pain was almost no longer felt, only occasionally occurring with a pain scale of 0.	16-19 Agustus 2023

No	Journal Title	Population	Intervention	Comparation	Outcome	Time
	Ezra Science Bulletin, Vol.1, No.2A (2023)					
5.	Application of Acupressure and Warm Compress in Nursing Care for Gastritis Patients Author: 1. Wiwit Ambarsari 2. Weni Sulastri 3. Novi Lasmadasari Journal of Nursing Media Research, Vol.5, No.1 (2022)	The subjects in this case study were 2 gastritis patients.	The interventions given were acupressure therapy and warm compresses for 3 days.	The comparison made was the measurement of pain before and after acupressure therapy and warm compresses were given.	In respondent 1, on day 1, acupressure therapy and warm compress were performed with a pain scale of 6 before therapy, after the procedure the pain decreased to 5. On day 2, the patient still experienced pain, then acupressure therapy and warm compress were performed, the pain scale before the procedure was performed, the pain scale experienced by the client was 5, after the procedure the pain decreased slightly to 4. On day 3 the pain had decreased and the client no longer winced, the pain had decreased with a pain scale of 2. In respondent 2, on day 1 before acupressure therapy and warm compress were performed, the pain scale was 5, after the procedure the pain decreased slightly to 4. On day 2, the patient still experienced pain, then acupressure therapy and warm compress were performed, the pain scale before the procedure was 4, after the procedure the client's pain decreased to 3. On day 3 the pain had disappeared.	29 April – 3 Mei 2021
6.	Deep breathing relaxation techniques and warm compresses on reducing pain intensity in gastritis patients in Bumisari Village, Natar District, South Lampung in 2022 Authors: 1. Lisa Yuliana Sari 2. Andoko 3. Aryanti Wardiyah Journal of Community Service	The population in this study was 1 patient with warm compresses and 1 patient with deep breathing relaxation techniques.	The interventions provided were deep breathing relaxation techniques and warm water compresses for 3 days.	The comparison made was the measurement of pain before and after deep breathing relaxation techniques and warm water compresses were given.	Based on the results of nursing care carried out for 3 consecutive days, it showed that on the 1st day in patient Ms. N scale 6, Ms. W scale 5 and Mr. K scale 6, for the 2nd day in patient Ms. N scale 4, Ms. W scale 4 and Mr. K scale 5 and for the 3rd day in patient Ms. N scale 3, Ms. W scale 3 and Mr. K scale 5. There was a decrease in pain in gastritis patients who were given deep breathing relaxation techniques and warm compresses. While in this nursing care there was 1 patient, Mr. K, who did not experience a decrease in gastritis pain because Mr. K still did not pay attention to the food patterns consumed daily and was reluctant to do warm	1-3 juni 2022

No	Journal Title	Population	Intervention	Comparation	Outcome	Time
	Creativity, Vol.6 No.2 (2023)				compresses because he thought this pain could go away on its own.	
7.	The Effect of Combination of Warm Compress and Dhikr on Pain Levels in Gastritis Patients Authors: 1. Syamdarniati 2. Indah Wasliah Scientific Journal of Service and Innovation, Vo.2, No.4 (2024)	The population in this study was 17 people who had gastritis.	The intervention given was a combination of warm compress therapy (morning and evening for 20 minutes) and dhikr (for 15 minutes after each warm compress session) on the level of pain reduction in gastritis patients.	The comparison made was the measurement of pain before and after warm water compresses and dhikr were given.	From the results of the study, it can be concluded that before being given warm water compresses and dhikr from 17 people, the pain scale range was 4-6 and after being given a combination of warm water compress therapy and dhikr from 17 people, the pain scale range was 0-3. Giving a combination of warm compress therapy and dhikr can reduce the level of pain intensity in gastritis patients. The combination of warm compress therapy and dhikr can be an alternative therapy for people suffering from gastritis.	2022

Discussion

Discussion on the effect of giving warm compress therapy on reducing pain in gastritis patients based on literature review from 7 research journals shows various results. The first article, This study uses the Quasy Experiment method with the One Group Pre-Post Test Design approach. Warm compresses are given to gastritis patients who meet the respondent criteria in order to help relieve the pain they feel.

The results of the pain scale in gastritis patients in the Emergency Room of Bhayangkara Hospital Class III Manado before being given warm compress therapy were in the category of moderate pain and severe pain, after being given warm compress therapy were in the category of mild pain and moderate pain, There is an effect of warm compress therapy on reducing pain in gastritis patients in the Emergency Room of Bhayangkara Hospital Class III Manado[13].

This is in line with research conducted by Utami & Kartika in 2018 entitled "Complementary Therapy to Reduce Pain in Gastritis Patients" where there was a significant decrease in pain in patients who were given warm compresses and in accordance with the results of research conducted by researchers so that the assumption of the researchers is that pain can decrease due to stimulation in the hypothalamus which can cause vasodilation or widening of blood vessels and reduce muscle tension so that pain can be reduced[14].

The second article, This study is a qualitative study with a case study research method. Giving warm compresses to gastritis clients using a jar filled with warm water with a temperature of 47.5℃ for 15 minutes. The intervention was given for 3 days of treatment to both respondents twice a day. Every day, pain scale measurements were taken before and after warm compresses were given.

Based on the results of the study, before being given warm compress therapy using the Numerical Rating Scale (NRS) pain scale measuring instrument, it was known that of the two respondents, both experienced moderate pain (4-6), namely client 1 was on a scale of 4 and client 2 was on a scale of 5. After being given warm compress therapy using the Numerical Rating Scale (NRS) pain scale measuring instrument in table 3, it is known that for 3 days the two gastritis respondents experienced a decrease in pain scale, namely on a scale of 0 (no pain). The decrease in the respondents' pain was because the warm compress could provide a warm feeling to the respondents to reduce the pain. The decrease in pain occurred because

of the transfer of heat by conduction from the bladder placed on the stomach into the stomach which could smooth blood circulation, reduce muscle tension and make the respondents comfortable/relaxed[15].

The results of this study are in line with research conducted by Padilah (2022) which stated that 1 respondent before being given a warm compress intervention experienced pain on a scale of 5, but after being given a warm compress, the respondent experienced pain on a scale of 0 (no pain)[9].

The third article, The research design of this scientific paper uses a case study design. The results of the application show that after giving a warm compress for 1 day there was a decrease, namely before the warm compress the pain scale was 6 (moderate pain) and after the warm compress the pain scale became 3 (mild pain)[16].

According to the gate control theory, pain has emotional and cognitive components as well as physical sensations. The gate mechanism located throughout the central nervous system can regulate and even inhibit pain impulses[14].

Based on Abdurakhman's research (2020), it showed that out of 15 respondents, the pain scale after warm compress therapy with WWZ (Warm Water Zack) changed, the most pain was pain with a scale of 1-3 (mild pain) as many as 9 respondents (60%) and a pain scale with a scale of 4-6 (moderate pain) was as many as 6 respondents (40%). These data indicate that there was a decrease in the pain scale before and after warm compress therapy with WWZ (Warm Water Zack)[17].

Fourth article, This type of research is descriptive research with a case study approach.

The results of giving warm compresses for 3 days, namely, before the intervention scale 5 (moderate pain), After the implementation of the 1st day, the pain decreased, from a scale of 5 reduced to 3. The intervention was carried out again on the 2nd day, the pain had greatly decreased (the pain scale changed to 2), only occasionally felt but not all the time. On the 3rd day the pain was almost no longer felt, only occasionally occurring with a pain scale of 0 (no pain)[18].

Fifth article, This type of research is a qualitative research and case study design to explore the problem of nursing care in gastritis patients. In respondent 1, Day 1 acupressure therapy and warm compresses were carried out with a pain scale before being given therapy of 6, after the action the pain decreased to 5. On the 2nd day, he still experienced pain then acupressure therapy and warm compresses were

carried out, the pain scale before the action was carried out the pain scale experienced by the client was 5, after the action the pain decreased slightly to 4. On the 3rd day the pain had decreased and the client did not wince anymore the pain had decreased with a pain scale of 2.

In the 2nd respondent, on the 1st day before the acupressure therapy and warm compress, the pain scale was 5, after the procedure was performed the pain slightly decreased to 4. On the 2nd day, the patient still experienced pain, then acupressure therapy and warm compress were performed, the pain scale before the procedure was 4, after the procedure the client's pain decreased to 3. On the 3rd day the pain had disappeared.

From the research results, it was found that the client said that he no longer felt pain, as seen from his facial expression which looked calm and no longer grimaced, using acupressure therapy and warm compresses, in accordance with the benefits and objectives of acupressure therapy and warm compresses.[8]

The sixth article, Student Oral Case Analysis (SOCA) Design uses a case study design in the form of application with an approach according to the descriptive method. Based on the results of nursing care carried out for 3 consecutive days, it shows that on the 1st day in patient Ms. N scale 6, Ms. W scale 5 and Mr. K scale 6, for the 2nd day in patient Ms. N scale 4, Ms. W scale 4 and Mr. K scale 5 and for the 3rd day in patient Ms. N scale 3, Ms. W scale 3 and Mr. K scale 5. There is a decrease in pain in gastritis patients who are given deep breathing relaxation techniques and warm compresses. While in this nursing care there is 1 patient, Mr. K, who did not experience a decrease in gastritis pain because Mr. K still does not pay attention to the food patterns consumed daily and is reluctant to do warm compresses because he thinks this pain can go away on its own.

Nursing care provided to Ms. N, Ms. W and Mr. K is to provide therapy using deep breathing relaxation techniques and warm compresses to reduce the intensity of pain felt so that patients are able to reduce and control the pain felt by patients[19].

The seventh article, The method of community service activities that have been implemented is the provision of a combination of warm compress and dhikr therapy for pain levels in gastritis patients in the community in the Mantang Health Center work area. From the results of the study, it can be concluded that before being given warm compresses and dhikr from 17 people, the pain scale range was 4-6 and

after being given a combination of warm compress and dhikr therapy from 17 people, the pain scale range was 0-3. The provision of a combination of warm compress and dhikr therapy can reduce the level of pain intensity in gastritis patients. The combination of warm compress and dhikr therapy can be an alternative therapy for people suffering from gastritis[20].

Conclusion

Based on the explanation of evidence based practice 7 journals above, it can be concluded that the application of warm water compress technique can be one of the effective non-pharmacological methods to help reduce pain in gastritis patients. This technique works by increasing blood circulation, relieving muscle tension and providing a relaxation effect that can improve the physical and psychological comfort of patients. This technique is easy to apply, does not cause side effects and can be a useful alternative in pain management in patients with gastritis.

Suggestion

Further literature review on the application of warm compresses to acute pain is expected to be carried out to be used as scientific evidence in nursing actions taken.

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