Acute pain management in pediatric patients with abdominal pain suspect of gastritis at Dr. Sardjito Hospital Yogyakarta

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Abstract
Abdominal pain is a symptom of acute abdominal pain that occurs suddenly and specifically. One of the nonpharmacological approaches that can be used to reduce abdominal pain is a warm compress. Giving this warm compress causes dilation of blood vessels thereby increasing blood flow to the tissue so that it can reduce pain. Objective: This case study aims to determine and provide nursing care for patients with Abdominal Pain Suspected Gastritis With Acute Pain in Aster Ward West Hospital Sardjito. Methods: This case study uses the case study method through the nursing care process from the assessment stage to evaluation. Pain levels were measured using the Numeric Rating Scale Pain. Case: An. S, aged 9 years, was admitted with a diagnosis of abdominal pain ec suspected gastritis with a history of abdominal pain and pain increases when given food. The patient experienced symptoms of pain that felt like stabbing, pain felt in the solar plexus (epigastrium), pain duration of about 10-15 seconds, pain was intermittent and most often occurred in the afternoon or evening. The pain scale felt was 4 (moderate pain). Results: The results of the application of the intervention showed a significant decrease from moderate pain to mild pain. The patient said it was no longer painful. The patient looked calm and relaxed and the patient seemed to be able to laugh and chat (cheerfully) pain and problems in An. S was resolved on day 3. Conclusion: Giving warm compresses is proven effective as a non-pharmacological method to reduce abdominal pain. Suggestion: Nurses are advised to apply warm compresses as a nonpharmacological intervention to reduce abdominal pain, which can be combined with other interventions or can be done in a more consistent duration so that the results are more effective.

Keywords: abdominal pain; pain; warm compresse s

1. Introduction
Abdominal pain is the primary symptom of an acute abdomen, occurring suddenly and specifically. Acute abdomen is a term often used for signs and symptoms of nonspecific abdominal pain and tenderness, but these signs and symptoms often occur in patients with dangerous intra-abdominal conditions (Maryana & Afni, 2021). Abdominal pain itself is a feeling of discomfort caused by the body's internal defenses to prevent damage to certain organs as much as possible (Emita et al., 2022).

World Health Organization's health research agency (WHO) conducted a review of abdominal pain worldwide reaching 1.8 million to 2.1 million people annually. Data from the Indonesian Ministry of Health, the percentage of abdominal pain incidence in Indonesia is 40.8% and reaches a prevalence of 274,396 cases of abdominal pain from 238,452,952 people in several regions of Indonesia (Jusuf et al., 2022). The causes of abdominal pain can occur due to disorders of the digestive organs or other organs such as *gastroenteritis,* ulcers, *pelvic inflammatory disease* (PID) or pelvic inflammatory disease, pancreatitis, appendicitis, constipation, hemorrhoids, ulcerative colic, gallstones, inflammation, kidney stones, urinary tract/kidney infections, ectopic pregnancy/miscarriage (Al-Masawabe & Abu-Naser, 2021).

One way people cope with pain is by visiting the nearest healthcare facility to obtain medication. Pharmacological therapy, typically provided after visiting a healthcare facility, typically involves analgesics, which can have side effects. However, if someone experiences severe pain, additional therapy is needed, or it can be used as a pre-treatment before reaching the designated healthcare facility to reduce the pain. Non-pharmacological therapies, such as complementary therapies, can be an additional solution to reduce pain (Labagow et al., 2022).

According to (Hanifah & Kuswantri, 2020), a simple, cost-free and easy-to-do complementary therapy is warm compresses. Their research states that warm compresses are an alternative treatment besides analgesics that can be used at any time when pain arises (Hanifah & Kuswantri, 2020). Warm compresses are a self-help and effective measure for relieving all types of pain, including heartburn

experienced by patients with abdominal pain suspected of gastritis. Warm compresses are done by using a cloth that has been previously moistened with warm water and placed on the area of the body that feels painful (Khomariyah et al., 2021). The purpose of applying a warm compress is to promote muscle relaxation, provide warmth, and reduce pain caused by stiffness. Heat is generally beneficial in the treatment process. Heat can relieve ischemia by reducing contractions and improving circulation. This warm compress method can trigger the release of endorphins, which the body uses to block pain-causing transmission. Based on this background, this case study aims to observe the effect of giving warm compresses to reduce pain levels in patients with abdominal pain.

2. Methods

This writing is a case study in the field of nursing that uses a comprehensive nursing care approach, including assessment, establishing a nursing diagnosis, planning, implementation, and evaluation of nursing. This study was conducted on one patient with pain nursing problems, who was given warm compress therapy for 20 minutes to reduce the level of pain. Measurement of pain levels using *the Numeric Rating Scale Pain.* This nursing care began on December 17, 2024 in the West Aster ward of Dr. Sardjito General Hospital.

3. Results and Discussion

3.1. Results

Based on the results of the assessment on An. S with a diagnosis of Abdominal Pain Suspected Gastritis conducted on December 17, 2024 in the West Aster Ward of Dr. Sardjito General Hospital. The patient's main complaint during the assessment was that the child complained of abdominal pain and the pain increased when given food. The results of the physical examination showed that the patient's general condition was quite good with GCS E4V5M6. The facial expression appeared to be grimacing in pain, and vital signs (blood pressure 118/80 mmHg, pulse 120x/minute, respiratory rate 20x/minute, SpO2 98%, temperature 36.8 °C). The abdomen was symmetrical, there was no abdominal distension, tympanic sound, no ascites, no bloating, peristalsis: present, 10x/minute, there was abdominal pain in the epigastrium.

Based on the pain assessment, the patient said pain in the stomach, the child appeared to be holding his stomach while grimacing, no fever, the pain felt like being stabbed, the pain was felt in the epigastrium, the pain lasted about 10-15 seconds, the pain felt intermittent and most often occurred in the afternoon or evening. Measurement of the pain level using *the Numeric Rating Scale Pain* showed a pain scale of 4 which indicates moderate pain. The nursing diagnosis established was acute pain (D.0070) related to physiological injury agents (abdominal pain suspected gastritis).

The nursing intervention provided included pain management with warm compress therapy for three days. These warm compresses were administered routinely for three days, lasting 20 minutes. Pain levels were measured after each treatment. Evaluation showed a decrease in the patient's pain level, from moderate to mild, proving that warm compresses are effective in reducing pain. Warm compresses can trigger the release of endorphins, thereby blocking the transmission of pain-causing chemicals in the body. Thus, this intervention was successful in helping patients reduce pain complaints.

3.2. Discussion

Abdominal pain is the primary symptom of an acute abdomen, occurring suddenly and specifically. Acute abdomen is a term often used for signs and symptoms of nonspecific abdominal pain and tenderness, but these signs and symptoms often occur in patients with dangerous intra-abdominal conditions (Maryam). Treatment of abdominal pain itself can use pharmacological and non-pharmacological techniques. Treatment using pharmacological analgesic therapy includes paracetamol, ibuprofen, mefenamic acid, and other types of analgesics. Meanwhile, treatment of abdominal pain with non-pharmacological techniques can use relaxation techniques, distraction techniques, and warm compresses (Alma Purba et al., 2022).

In the case of An. S, physiological symptoms of abdominal pain were found, including complaints of abdominal pain, discomfort in the epigastrium and abdomen. This manifestation is in accordance with research (Reka Puspita Djumaati et al., 2024) that abdominal pain, signs and symptoms that

appear include complaining of pain, grimacing, frowning, biting the lip, and restlessness. Specifically, abdominal pain in patient An. S occurs due to gastritis. Clinical symptoms that appear include abdominal pain, heartburn, and nausea. Medical management that has been carried out includes administration of paracetamol, ranitidine, and sucralfate injections. However, in the midst of the management process, abdominal pain remains a concern, with the patient's pain scale of 4 indicating a moderate level of pain. Pain is very subjective and individual. This is important to identify by measuring the pain scale with levels of mild, moderate, and severe pain (Ramadhani et al., 2025).

Abdominal pain in the case of An. S, reinforced by complaints of pain that persist despite being given drug therapy, requires non-pharmacological therapy assistance to reduce pain. Based on the theory (Price & Wilson, 2014), it explains that pain is a sensation caused by certain stimuli. The pain that occurs in gastritis occurs due to inflammation of the stomach wall, which is caused by tissue damage due to the release of chemical substances that activate pain receptors and the formation of pain signals, which are then sent along the nerves, through the spine to the brain. The pain causes discomfort and interferes with daily activities so that nursing care is needed to relieve or eliminate the pain.

Warm compress therapy was chosen because it is a complementary treatment for non- traumatic abdominal pain. Warm compress therapy reduces pain by reducing muscle spasms, stimulating pain, causing vasodilation and increasing blood flow (Umboro et al., 2022). This causes blood vessels to widen, which then spreads to the painful area. The benefit is that it focuses attention on something other than the pain itself, similar to a distraction, so the pain is less pronounced. This effect lowers the pain scale and makes a person feel more relaxed (Abdurakhman et al., 2020).

The implementation of warm compresses was carried out for three days with measurable results using *the Numeric Rating Scale Pain.* On the first day, An. S was given a warm compress for 20 minutes. The pain scale experienced by An. S after being given the warm compress was as follows: decreased from a pain scale of 4 to 3 (moderate pain). On the second day, An. S said the pain had decreased, so the results showed a decrease in the level of pain after being given a warm compress. decreased from a pain scale of 3 to 2. On the third day, he said the pain was rare, so the results showed a decrease in the level of pain after being given a warm compress. decreased from a pain scale of 2 to 1 or mild pain. This proves that warm compresses effective in reducing pain in patients. Research supporting the results of this case study is research conducted by (Kushariyadi et al., 2023) that the results of applying warm compresses before being carried out with a pain scale of 5 or moderate in two gastritis patients, then applying warm compresses for three days obtained results on a pain scale of 2 and 1 or mild pain.

warm compress therapy on An. S is in line with research (Selviana et al., 2024) which shows that the results of the application of warm compresses carried out by researchers for three days by providing warm compresses using a jar filled with warm water compressed for 20 minutes, this has a positive effect on reducing the pain scale in gastritis patients. In line with research (Aprilya et al., 2023) there is an effect of giving warm compresses on blood pressure and pulse. This can occur because when warm compresses cause dilation of blood vessels and cause blood flow to increase, thus causing blood pressure to decrease. This can occur because when the process of dilation of blood vessels occurs, blood flow will be easier to flow throughout the body. This process will reduce blood flow resistance, therefore the heart does not have to pump too often to simply circulate blood. This is similar to the results of research conducted by Priceidayat et al (2022) the results of the implementation of EBN in the form of warm compresses have a positive effect on reducing pain intensity in gastritis patients. The implementation of warm compresses on gastritis patients carried out for 3 days showed results that were in line with expectations, namely the pain scale was reduced or even disappeared (the pain scale was reduced from 5 to 2), the patient appeared relaxed and not anxious.

4. Conclusion

Based on the case study, it can be concluded that warm compresses have been proven effective in reducing patient pain levels, with pain levels decreasing from 4 (moderate pain) to 1 (mild pain) after the intervention. This indicates that the warm compress technique successfully modulates the pain response through the release of endorphins, thereby blocking the transmission of pain-causing

substances. Warm compresses can be an easy, safe, and effective non-pharmacological intervention to reduce pain, especially in patients with abdominal pain. The success of this therapy also depends on the patient's ability to participate cooperatively throughout the process. For future interventions, this intervention can be combined with other relaxation techniques or can be carried out consistently for a longer period of time to achieve more effective results in reducing pain levels.

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