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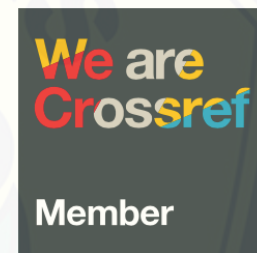
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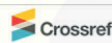
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# Warm Compress Therapy to Resolved Acute Pain Nursing Problems: A Case Study

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## ABSTRACT

**Background:** the application of complementary therapies in hospitals is still not optimal. The limitations of the application of nursing interventions are caused by the factor of applying therapy by nurses to patients and education related to therapy to patients is still rarely done. Nurses are still focusing on conventional treatment with pharmacological therapies such as analgesic drugs to relieve pain, while warm compress therapy is still not prioritized. The application of warm compress therapy in the inpatient room of Gardena dr. Soebandi General Hospital Jember to overcome acute pain nursing problems in patients is still rare. **Aims:** evaluate warm compress interventions in patients with acute pain nursing problems. **Method:** type of research case study using nursing care method. The sample was a patient treated in the Gardena room of dr. Soebandi General Hospital Jember with acute pain nursing problems. Patients are given nursing intervention in the form of warm compress therapy for 15-20 minutes for 3 days, from January 16 to 18, 2023. Nursing intervention is given through the nursing process, which is teaching directly to patients and families with the right and appropriate techniques to adjust the patient's condition. **Results:** the provision of nursing interventions in the form of warm compresses can overcome acute pain nursing problems. This is shown by the improvement of the patient's condition that complaints of pain, grimacing and restlessness decrease and sleep patterns improve. Patients can do the therapy independently properly and correctly. **Conclusion:** warm compress therapy is effective in overcoming acute pain nursing problems.

**Keywords:** Acute Pain, Hepatomegaly, Warm Compress

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## I. INTRODUCTION

The application of warm compress therapy to overcome nursing problems is still not optimal. The limitations of the

application of the intervention are caused by several factors such as the application of therapy by nurses to patients which is rarely done and education about therapy to

patients (Zhu, 2023). Nurses only focus on conventional treatment with pharmacological therapies such as pain-relieving analgesic drugs, while complementary therapies are still not a priority treatment (Nejad, 2020). Based on observations in the inpatient room of Gardena dr. Soebandi General Hospital Jember that the application of warm compress therapy to overcome acute pain nursing problems in patients is still rare.

The results of research in China that the provision of nursing intervention in the form of warm compresses in patients as many as 54 samples showed the results of the effect of relieving pain experienced by patients (Wang, 2022). The results of a study in Portugal showed that giving warm compresses to intervention group respondents was found to be as much as 47% higher effectiveness than the group that did not get therapy, which was 26.3% (Rodrigues, 2022). The results of a study in China that the administration of warm compresses to patients with postpartum urinary barrage nursing problems as many as 600 samples of the intervention group showed effective (Zhu, 2023). The results of a study in Indonesia on a sample of 11 people with complaints of abdominal colic who were given warm compress intervention showed effective and can relieve pain experienced by patients

(Hadinata, 2022). The results of research in Indonesia show that giving warm compress intervention to a sample of 2 respondents can be effective and beneficial for patients (Triani, 2022).

Warm compress therapy that is not applied properly basically has several obstacles such as too many patients to handle, the availability of tools and materials to do therapy, the imbalance in the number of nurses with patients, and relying only on conventional medicine (Wang, 2022). The importance of warm compress therapy to be applied is basically in accordance with the function of the therapy. Some impacts if therapy is not applied properly, especially in patients with pain, patients tend to be uncomfortable and have complaints related to the pain such as anxiety, difficulty resting or sleeping and tend to be protective (Karmani, 2019).

One solution in increasing the use of warm compress therapy to overcome acute pain nursing problems in patients with abdominal colic, anemia and hepatomegaly is by educating and demonstrating to the health team and involving patients, as well as the active role of the patient's family concerned.

## 2. METHODS

This study aimed to evaluate warm compress interventions in patients with acute pain nursing problems in nursing care.

### Design and Sample

This type of research is a case study using nursing care methods. The sample in the study was patients treated in the Gardena room of dr. Soebandi General Hospital Jember with acute pain nursing problems. Data sources in the study were obtained from primary data, namely by taking action, observation and question and answer with patients and families, and secondary data obtained through patient medical record data.

### Variable and Analysis

The variables of this study were acute pain and warm compress therapy. The analysis in this study uses the nursing care process consisting of nursing assessment, nursing diagnosis, nursing intervention, nursing implementation and nursing evaluation.

### Setting and Strategy

Patients are given nursing intervention in the form of warm compress therapy for 15-20 minutes for 3 days, from January 16 to 18, 2023. Nursing intervention is given through the nursing process, namely by giving directly by teaching patients and families with the right and appropriate techniques by adjusting the patient's condition. Intervention is given through the following stages:

- a. Orientation phase
  - Therapeutic greetings to patients and families
  - Meeting evaluation
  - Contract (topic, time, place).
- b. Work phase
  - Administration of warm compress therapy.
- c. Termination phase
  - Evaluation (evaluation of family and patient responses) subjectively and objectively.
  - Follow-up (tasks for participants)
  - Upcoming contracts (topic, time, place).

## 3. RESULTS

### Characteristics

Table 1. Characteristics of Respondents (*continue to page 215*)

Characteristics	Information
Diagnostics of the medication	Abdominal Colic, Anemia and Hepatomegaly
Age	49 years old
Gender	Man



Characteristics	Information
Religion	Islam
Education	Junior High School
Work	Farmer
Marital Status	Married

**Table 2.** Characteristics of Materials and Tools

Materials	Information
Water	Fresh water
Temperature	40-500C
Time	15-20 minute
Types of compresses	Dry compresses
Tools	Glass bottle and cloth or towel

### Nursing Care

**Table 3.** Nursing Care

Nursing Process	Result
Nursing assessment	<p><b>The main complaint of patients says pain.</b></p> <ul style="list-style-type: none"> <li>- P: pain due to enlarged liver and pain when pressed</li> <li>- Q: pain disappears</li> <li>- R: pain in the hypochondriac area of dextra and lumbar dextra</li> <li>- S: pain scale 7</li> <li>- T: pain appears erratic</li> </ul> <p><b>Focus on physical assessment:</b></p> <ul style="list-style-type: none"> <li>- Head by inspection: pale yellowish face, grimace if stomach pressed and restless, no eye contact with nurse.</li> <li>- Abdomen by inspection: abdominal distention appears, skin color is slightly evenly yellow. Auscultation: there is intestinal noise 32 times per minute. Palpation: there is tenderness in the hypochondriac dextra and lumbar dextra. Percussion: hyperthympany sounds are heard in the epigastric and umbilical regions.</li> <li>- Supporting examination: on the ultrasound photo shows the results of hepatosplenomegaly, ascites.</li> </ul>
Nursing Diagnosis (PPNI, 2017)	<p>Acute pain associated with physiological injury agents (colic abdomen) characterized by the patient complaining of pain, the patient says pain, P: pain due to enlarged liver and pain when pressed, Q: pain disappears, R: pain in the hypochondriac dextra and lumbar dextra areas, S: pain scale 7, T: pain appears erratic. The patient's face appears to grimace if the stomach is pressed, is protective by not moving much so as not to hurt, appears restless, has difficulty sleeping and often wakes up.</p>
Nursing intervention (PPNI, 2018)	<p><b>Observation:</b></p> <ol style="list-style-type: none"> <li>1. Identify causative factors, quality, area, scale, time of pain.</li> <li>2. Identify non-verbal pain responses.</li> </ol> <p><b>Therapeutic:</b></p> <ol style="list-style-type: none"> <li>3. Perform warm compress therapy</li> </ol> <p><b>Education:</b></p> <ol style="list-style-type: none"> <li>4. Explain what needs to be considered in the therapy.</li> </ol> <p><b>Collaboration:</b></p> <ol style="list-style-type: none"> <li>5. Analgetic administration collaboration.</li> </ol>
Implementation of nursing	<ol style="list-style-type: none"> <li>a. Preparing utensils bottles, warm water and cloths.</li> <li>b. Fill the bottle with warm water and wrap the bottle in a cloth.</li> <li>c. Attach the bottle to the solar plexus for 15-20 minutes.</li> </ol>

Nursing Evaluation

Table 4. Day 1 Nursing Evaluation

No	Indicator	Before					After				
		1	2	3	4	5	1	2	3	4	5
1	Pain complaints			✓							✓
2	Grimace			✓							✓
3	Restless			✓				✓			
4	*Sleep patterns			✓				✓			

Information:

- |                     |                    |
|---------------------|--------------------|
| (1) Decreased       | *(1) Smear         |
| (2) Simply Downhill | (2) Quite Worse    |
| (3) Keep            | (3) Keep           |
| (4) Quite Increased | (4) Quite improved |
| (5) Increase        | (5) Improved       |

In table 4 that after a warm compress intervention was given on day 1 on January 16, 2023, complaints of pain and facial grimacing were reduced as indicated by an increase from number 3 (moderate) to number 4 (quite increased). It is that the intervention of warm compresses effectively reduces pain complaints albeit gradually. In the indicator of anxiety and

sleep patterns still remain at number 3 that the patient is still restless due to the stomach that is still growing and sleep patterns are still disturbed because the patient is still unable to adapt to the hospital atmosphere. Based on these data, the warm compress intervention is still not optimal to reduce complaints in indicators number 3 and 4.

Table 5. Day 2 Nursing Evaluation

No	Indicator	Before					After				
		1	2	3	4	5	1	2	3	4	5
1	Pain complaints				✓						✓
2	Grimace				✓						✓
3	Restless			✓					✓		
4	*Sleep patterns			✓					✓		

Information:

- |                     |                    |
|---------------------|--------------------|
| (1) Decreased       | *(1) Smear         |
| (2) Simply Downhill | (2) Quite Worse    |
| (3) Keep            | (3) Keep           |
| (4) Quite Increased | (4) Quite improved |
| (5) Increase        | (5) Improved       |

In table 5 that after being given a warm compress intervention on day 2 on January 17, 2023, it was found that the patient's pain complaints and facial

grimaces had decreased, which was shown by an increase from number 4 (quite increased) to number 5 (increased). It is that the intervention of warm compresses

is effective in reducing pain. In the indicators of restlessness and sleep patterns there was an increase that patients complained of not being so restless, increased from number 3 (moderate) to number 4 (moderately

improved) and patients said sleep patterns improved. Based on these data, the intervention of warm compresses is still not optimal to reduce complaints in indicators number 3 and 4.

Table 6. Day 3 Nursing Evaluation

No	Indicator	Before					After				
		1	2	3	4	5	1	2	3	4	5
1	Pain complaints				✓						✓
2	Grimace				✓						✓
3	Restless					✓					✓
4	*Sleep patterns					✓					✓

Information:

- |                     |                    |
|---------------------|--------------------|
| (1) Decreased       | *(1) Smear         |
| (2) Simply Downhill | (2) Quite Worse    |
| (3) Keep            | (3) Keep           |
| (4) Quite Increased | (4) Quite improved |
| (5) Increase        | (5) Improved       |

In table 6 that after a warm compress intervention was given on day 3 on January 18, 2023, all indicators increased to number 5 which has meaning (improved). Based on these data that warm compress intervention is effective pain nursing problem.

#### 4. DISCUSSIONS

In table 1 about the characteristics of respondents that patients with a diagnosis of hepatomegaly with male sex tend to experience liver disorders more often and on average patients with liver disorders are experienced by people over 40 years old (Kemenkes, 2022). Similar studies also

found that cases were also experienced by male patients aged 47 years (Vony, 2023). This is because the majority of men can develop liver disease by several factors such as alcohol consumption (causing extensive lesions in the liver and leading to inflammation), drug consumption, free sex (risk of transmission of diseases such as hepatitis) and unhealthy lifestyles such as smoking (Virma, 2023). The results in this study that hepatomegaly in patients are caused by the male sex who have an unhealthy lifestyle such as smoking, and less care about health.

In table 2 that the table of materials and warm compress therapy tools consisting of the type of water using fresh

water, water temperature 40-50 degrees Celsius, time 15-20 minutes, type of dry compress, and using bottles. The material used is adjusted to previous studies, namely using warm water with temperatures between 40-50C, giving for 15-20 minutes and the type of compress, namely dry compresses using bottles and wrapped in cloth or towels (Yuda, 2021). Another study results that dry compress intervention with temperature indicators in the range of 40-50C (Wang, 2022).

In table 3 that nursing care in the focus data of pain assessment uses assessment according to provocative, quality, spread, scale, and time of pain. The study aims to determine the characteristics of pain experienced by patients ranging from the causes of pain and things that aggravate pain, the quality of pain, namely the pain felt by the patient (for example, disappearing, stabbing, burning, feeling crushed), the region or location of pain experienced by patients, the pain scale is a scale used from a scale of 0 to 10 with the interpretation of no pain to very painful, and the time of onset of pain based on the Numeric Rating Scale (Khoerunnissa, 2023). The results of other studies showed that the main complaint or focus data of the study in patients with hepatomegaly was patients complaining of pain in the abdomen with different perceptions of

pain scales according to the subjective perception of patients (Ichsan, 2020). The results of another study stated that patients with hepatomegaly tend to complain of abdominal pain in the hypochondriac and epigastric regions (Riadi, 2023). That the pain experienced by the patient is pain due to enlarged liver and pain when pressed, pain that is felt disappears arising, the location of pain in the hypochondriac dextra and lumbar dextra regions, pain scale 7 and pain appears erratic. Based on these data, nursing diagnoses that may arise are acute pain with the intervention of warm compress therapy. Warm compress therapy is administered for 3 days to the patient according to the procedure.

In tables 4, 5 and 6 that the nursing evaluation table days 1 to 3 for 3 consecutive days can reduce complaints in patients. During these 3 days, patients get the same treatment, namely warm compresses. Warm compresses have been shown to be effective in lowering pain intensity in patients with hepatomegaly. According to the results of another study that warm compresses can reduce pain in patients with perineal trauma (Borrman, 2019). The results of other studies prove that warm compresses are effective in reducing pain in perineal patients (Rodrigues, 2022). The results of another



study showed that pain can be reduced with warm compress therapy in radiculopathy cervical spondylotic patients. Giving warm compresses can reduce the intensity of pain with water temperature material 40-50C, a type of dry compress and carried out for 20 minutes (Ding, 2021). The results of another study stated that the application of warm compress therapy can reduce pain intensity in patients with perineal (Modoor, 2021).

## 5. CONCLUSIONS

Patients with male sex aged 49 years with the main complaint of abdominal pain. The results of the physical examination showed abdominal distention, slightly yellow skin color evenly, intestinal noise 32 times per minute, hypochondriac dextra and lumbar dextra tenderness, hypertympani sounded in the epigastric and umbilical regions, appeared to grimace in pain, the patient was protective by not moving much so as not to be painful, seemed restless and had difficulty sleeping. The patient's nursing problem is acute pain, nursing implementation, namely warm compress therapy for 15-20 minutes for 3 days. Evaluations found patients said pain decreased, with decreased pain scales, decreased restlessness and improved sleep patterns. That warm compress therapy is

effective in overcoming acute pain nursing problems.

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## AUTHOR CONTRIBUTIONS

Substantial contributions to conception, data collection, and analysis: Kushariyadi, Rifa Refina Ria Maulida, Akhmad Zainur Ridla and Eka Yufi Septriana Candra. Writing manuscript and revisions: Kushariyadi and Rifa Refina Ria Maulida.

## CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## DATA AVAILABILITY STATEMENT

The data are not publicly available due to privacy or ethical restrictions.

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