

## Application Of A Combination Of Deep Breathing Relaxation Techniques And Warm Compresses To Reduce Pain Dyspepsia Patients at H. Abdul Manap Hospital

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### ABSTRACT

**Background:** Dyspepsia is a symptom that is often found in society which is characterized by pain and discomfort in the upper part or solar plexus and has a negative impact on the sufferer's productivity. One of the non-pharmacological therapies applied to reduce chest/heartburn pain in dyspepsia patients is a combination of deep breathing relaxation techniques and warm compresses.

**Objective:** This research was conducted to determine the effect of a combination of deep breathing relaxation techniques and warm compresses on pain intensity in dyspepsia patients.

**Method:** Using a case report design, in dyspepsia patients who experienced mild-moderate chest/heartburn pain, with one intervention patient and one control patient, which was measured using the Numeric Rating Scale. This research was carried out for 3 days, treatment 2 times a day for 15-30 minutes.

**Results:** Results were obtained in intervention patients whose pain scale was initially 6 moderate, decreasing to 0 no pain, while in control patients whose pain scale was initially 7 severe, the pain scale was 1 no pain.

**Conclusion:** The application of a combination of deep breathing relaxation techniques and warm compresses shows changes and obtains optimal and well-documented results. It is hoped that future researchers can develop case report results related to reducing pain intensity in dyspeptic heartburn patients.

**Keywords:** Dyspepsia, Warm Compresses, Chest Pain, Deep Breathing Relaxation

### INTRODUCTION

Dyspepsia is a symptom that is often found in the community which is characterized by pain and discomfort in the upper part or solar plexus (Zakiyah *et al.*, 2021). The most common form of dyspepsia is a collection of various clinical conditions that can result in limb pain, flatulence, early satiety, nausea and vomiting. Stomach acid production can increase due to chemicals, including alcohol, common painkillers, and vinegar. Indigestion can be caused by spicy foods, acidic foods and drinks, and stimulating spices (Kedoh, 2021)

Dyspepsia is a non-communicable disease that not only occurs in Indonesia but also in other parts of the world. WHO estimates that the death rate from non-communicable diseases will increase to 73% and the morbidity rate to 60% in the world, while SEARO (South East Asian Regional Office) countries predict that mortality and morbidity from non-communicable diseases will increase by 50% and 42% (Octaviana, Noorhidayah and Rachman, 2021) About 15-40% of people worldwide suffer from dyspepsia. Every year, 25% of the world's population is affected by this disorder, in Asia, the prevalence of dyspepsia is around 8-30% (Melina, Nababan, Rohana, 2023)

In Indonesia, in 2020, it is estimated that the incidence of dyspepsia will increase from 10 million people to 28 million people, equivalent to 11.3% of the total population in Indonesia. (Melina, Nababan and Rohana, 2023). According to the report from the Jambi Provincial Health Service, dyspepsia is ranked fifth out of the ten most common diseases in Jambi provincial health centers with a total of 6.17% of cases. (Dinas Kesehatan Provinsi Jambi, 2019). At the H. Abdul Manap Regional Hospital, Jambi City, especially the internal room, according to medical records, the number of dyspepsia incidents in 2023 was 236 people.

Dyspepsia can be triggered by several factors including gastric acid secretion, eating habits, Helicobacter Pylori bacterial infection, peptic ulcers and psychology, the habit of consuming risky foods such as spicy, sour, high-salt foods and drinks such as coffee, alcohol are factors that trigger dyspepsia symptoms. Someone who experiences dyspepsia is often accompanied by pain or discomfort in the stomach. Pathophysiologically there are several factors that can cause pain in

dyspepsia patients, namely damage to the mucosal barrier which causes increased back diffusion of H<sup>+</sup> ions, disturbed perfusion of the gastric mucosa and the amount of acid. If the stomach is high, pain if not resolved will have an impact on behavior and daily activities so treatment needs to be done (Permana, Nugraha, 2020)

Based on the results of observations regarding the treatment of abdominal pain at H Abdul Manap Regional Hospital using only pharmacological techniques, without administering non-pharmacological techniques as supporting measures, after interviews with intervention patients and control patients it was found that the patient said that when he was sick he rarely took medication to reduce the pain. Just leave the pain alone, if the pain gets worse, go straight to the hospital for treatment.

The role of the nurse in treating dyspepsia patients is to manage abdominal pain in the form of caring for the patient so that they can control the pain they suffer by using non-pharmacological measures, deep breathing relaxation techniques (Aini and Reskita, 2018). Apart from using deep breathing relaxation techniques in non-pharmacological treatments to reduce pain, warm compresses can also be applied. Warm compresses are often used to reduce pain related to muscle tension, although they can be used to treat various other types of pain (Abdurakhman, Indragiri, Setiyowati, 2020). This is in line with research conducted by Vanessa Datunsolang et al, regarding the effect of warm compresses on the intensity of pain in dyspepsia patients in the ER at the Robet Wolter Mongisidi Manado level II Hospital where the results showed that there was an effect of warm compresses on the intensity of pain in dyspepsia patients in the ER at home. Kindergarten pain. II Robert Wolter Mongisidi Manado (Datunsolang *et.al.*, 20203)

Based on the background and phenomena above, the author is interested in highlighting cases of dyspepsia syndrome as a case report method with the title "Application of a Combination of Deep Breathing Relaxation Techniques and Warm Compresses to Reduce Pain Scale in Dyspepsia Patients at H Abdul Manap Regional Hospital, Jambi City". The aim of this research is to provide an overview of the implementation of a combination of deep breathing relaxation techniques and warm compresses to reduce the pain scale in dyspepsia patients at H Abdul Manap Hospital, Jambi City.

## METHODS

Using a case report approach using a qualitative descriptive method with the case selection stages in this study with the criteria for dyspepsia syndrome patients in the Internal Room of H Abdul Manap Hospital, Jambi. In this scientific paper, the researcher provided a combined intervention of deep breathing relaxation and warm compresses to the intervention patients, whereas in the control patients the researchers only identified the location, characteristics, duration, frequency, quality, intensity and scale of pain without providing non-pharmacological techniques to reduce pain. This intervention was carried out twice. a day for 3 consecutive days and done for 15-30 minutes. Theory using literature studies obtained from relevant journal portal websites that can be accessed, which in this research used: Google Scholar, Pubmed, and Garuda. The articles used in this research are only articles published in 2020-2024, compiling nursing care consisting of assessment formats, nursing diagnoses, interventions, implementation and nursing evaluations based on the provisions that apply at the basic nursing stage, enforcement of nursing diagnoses based on the SDKI, objectives and outcome criteria based on the SLKI, as well as interventions and implementation arranged based on the SIKI, Carrying out the application of nursing care related to thermotherapy in patients with dyspepsia syndrome with heartburn.

## RESULTS

The results of the assessment of intervention patients carried out on May 31 2024 found that Mrs. L complained of heartburn radiating to the back, tightness in the chest, continuous pain, P the pain got worse when doing activities, Q felt like he was being stabbed, R had heartburn radiating to the back, with S being 6. Meanwhile, the results of the study on control patients which was carried out on June 2 2024, Mrs. U complains of heartburn. P with pain when doing activities, Q feels like being stabbed, R chest pain/heartburn with S which is 7, T continuous pain, chest feels tight.

The priority nursing diagnosis for intervention and control patients is acute pain related to a physiological injury agent characterized by complaints of pain, appearing to grimace. The subjective

data is Mrs. L says pain in the pit of the stomach, chest feels sore, P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain radiates to back, S: 6, T: pain feels continuous. The object data is Mrs. L looked grimacing, Mrs. L looked weak, chest pain (+). In the control patient the data obtained was Mrs. U complains of pain, looks grimacing, restless. The subjective data is Mrs. U says pain in the chest/heartburn, P: pain when doing activities, , Q feels like being stabbed, R chest pain/heartburn with S is 7 T: continuous pain. Objective data is Mrs. U looked grimacing, Mrs. U looks weak, chest pain (+).

Intervention and management patients are given nursing interventions by implementing the main pain management interventions that are in accordance with SIKI theory. The main interventions for pain management include identification (location, characteristics, duration, frequency, quality, intensity of pain), identification of factors that aggravate and relieve pain. Provide non-pharmacological techniques to reduce pain (eg: TENS, hypnosis, acupressure, music therapy, biofeedback, massage therapy, deep breathing relaxation techniques, aromatherapy, guided imagination techniques, warm/cold compresses, play therapy), control the environment that aggravates pain ( ex: room temperature, lighting, noise).

One non-pharmacological technique to reduce pain in dyspepsia patients is a combination of deep breathing relaxation techniques and warm compresses. This therapy was given for 3 days to intervention patients from 01 June to 03 June 2024, while the intervention carried out on control patients was in the form of monitoring the pain felt by the patient from 02 June to 04 June 2024 in the Internal Room at H Abdul Manap Hospital. Jambi City:

1. Treatment on the 1st day for intervention patients on June 1 2024, at 09.00 before taking action, first identify, location, characteristics, duration, frequency, quality, intensity and scale of pain. The results showed that the patient reported pain in the pit of the stomach, P: pain when activity, Q: pain feels like being stabbed, R: chest pain radiates to the back, S: 6 (Numeric Rating Scale). Q: continuous pain. Next, provide non-pharmacological techniques to reduce pain, namely deep breathing relaxation and warm compresses, after which an evaluation is carried out, it is found that P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain radiates to the back, S: 5 (Numeric Rating Scale). T: continuous pain, there is a decrease in the pain scale from previously the pain scale was 6.

At 13.00 the action was carried out again, before the action was carried out the researcher identified the pain scale, P: pain when doing activities, Q: pain felt like being stabbed, R: chest pain radiating to the back, S: 5 T: continuous pain. Next, non-pharmacological techniques were carried out, a combination of deep breathing relaxation techniques and warm compresses, and re-evaluated, the results were P: pain when doing activities, Q: pain felt like being stabbed, R: chest pain radiating to the back, S: 4 T: pain continues continuously, where there is a decrease in the patient's pain scale.

Meanwhile, in control patients, on the first day at 15.25, researchers identified the location, characteristics, duration, frequency, quality, intensity and scale of pain. The results showed that the patient said he had pain in the chest/solar plexus, P: pain when doing activities, Q: pain felt like being stabbed- stab, R: chest pain, S: 7 (Numeric Rating Scale). Where there is no decrease in the patient's pain scale. At 19.00 an identification was carried out to identify the location, characteristics, duration, frequency, quality, intensity and scale of pain. The results obtained were that the patient said pain in the chest/solar plexus, P: pain when doing activities, Q: pain felt like being stabbed, R: chest pain , S: 7.

2. Day 2 of treatment for intervention patients on 02 June 2024 at 10.00, before the action is carried out, questions and answers are conducted again regarding P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain radiates to the back, S: 4, T: continuous pain. Next, provide deep breathing relaxation techniques and warm compresses, re-evaluated and found P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain radiating to the back, S: 4, T: continuous pain, next evaluation is carried out related to P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain radiates to the back, S: 3, T: continuous pain, there is a decrease in the pain scale which was measured using, previously the pain scale was 4.

The intervention was carried out again at 13.00, a non-pharmacological technique was carried out, a combination of deep breathing relaxation and warm compresses, but before that a

question and answer was carried out regarding P: pain when doing activities, Q: pain felt like being stabbed, R: chest pain radiating to the back, S: 4, T: continuous pain, and after the action was taken the researcher evaluated the action that had been taken: pain when doing activities, Q: pain felt like being stabbed, R: chest pain radiating to the back, S: 3, T: continuous pain, found The result was a decrease in the pain scale to 3.

In control patients on day 2 at 09.00 identifying the location, characteristics, duration, frequency, quality, intensity and scale of pain, the results obtained were that the patient said pain in the chest/solar plexus, P: pain when doing activities, Q: pain felt like being stabbed, R: chest pain, S: 6 (Numeric Rating Scale). Where there was a decrease in the pain scale from the previous day, which was initially a pain scale of 7. At 13.00 the researchers again identified the location, characteristics, duration, frequency, quality, intensity and scale of pain. The result was that the patient said pain in the chest/solar plexus, P: pain when activities, Q: pain feels like being stabbed, R: chest pain, S: 6. There is no decrease in the pain scale in patients with a pain scale of 6.

3. Treatment on the 3rd day of intervention patients on 03 June 2024 at 09.00, before the action a question and answer was carried out again regarding P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain, S: 2, ( Numeric Rating Scale), Q: Continuous pain. Next, provide non-pharmacological techniques to reduce pain, namely deep breathing relaxation techniques and warm compresses. Where there was a decrease in the pain scale which was measured using the Numeric Rating Scale, which previously had a pain scale of 2, decreased to 1.

At 13.00 another non-pharmacological technique was carried out, a combination of deep breathing relaxation and warm compresses, but before that a question and answer was carried out regarding P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain radiating to the back, S: 1, T: continuous pain, and after the action was taken, the researcher evaluated the action that had been taken. P: pain when doing activities, Q: pain felt like being stabbed, R: chest pain radiating to the back, S: 0, the results showed that there was a decrease in the initial pain scale 1 decreases to 0.

In control patients on the 3rd day, the first meeting at 09.00 identified the location, characteristics, duration, frequency, quality, intensity and scale of pain. The results obtained were that the patient said pain in the chest/solar plexus, P: pain when doing activities, Q: pain feels like being stabbed, R: chest pain, S: 1 (Numeric Rating Scale). Where there was a decrease in the pain scale from the previous day, initially the pain scale was 6. Then at the second meeting at 13.00 identifying the location, characteristics, duration, frequency, quality, intensity and scale of pain, the results obtained were that the patient said pain in the chest/solar plexus, P : pain when doing activities, Q: pain feels like being stabbed, R: chest pain, S: 1, where there is no decrease in the pain scale on the same day.

In this case, it is proven that after using a combination of deep breathing relaxation techniques and warm compresses, it can reduce the pain scale significantly in dyspepsia patients, and the advantages of this therapy can be applied independently by the patient and does not require costs and dangerous side effects so it can be done by patients experiencing pain. Meanwhile, in control patients, it was found that there was a decrease in the pain scale in dyspepsia patients.

## DISCUSSION

This is in accordance with the theory of Joey Jhosua V Tjahjadi et al, 2024. Clinical manifestations of dyspepsia syndrome are heartburn, burning sensation in the chest as if being burned, bloating, nausea, vomiting or belching, decreased appetite and feeling full quickly (Tjahjadi, *et al.*, 2024). Where there are similarities between theory and studies in intervention and control patients where there are 3 signs of the same symptoms, namely feeling heartburn, nausea and decreased appetite.

If pain is not treated, it will affect the psychological and physical aspects of the sufferer. Psychological aspects include anxiety, fear, changes in personality and behavior, sleep disorders and social life disorders. Meanwhile, from a physical aspect, pain increases morbidity and mortality rates (Loese, *et. Al.*, 2019). Non-pharmacological techniques that can be used to reduce pain include deep breathing relaxation and applying warm compresses to help reduce pain (Yuliana, *et.al.*, 2023).

The nursing diagnosis assigned to intervention and management patients is acute pain which is in accordance with the theory in determining nursing diagnoses according to Indonesian nursing diagnosis standards which consist of 80-100% containing major symptoms and is supported by minor signs and symptoms that appear during the assessment. This is also in accordance with research conducted by Finni Tumiwa et al. With the title "The effect of providing deep breathing relaxation techniques on the level of pain in patients with dyspepsia syndrome in the emergency room of RSUD X" which mentions acute pain as a nursing diagnosis that appears in patients with dyspepsia syndrome (Tumiwa, Pondaa, Musak, 2023). Another research conducted by Dona Selviana et al with the title "Implementation of warm compresses with warm ater zack (Wwz) on the pain of dyspepsia patients" in this study stated acute pain as a diagnosis that appeared in dyspepsia patients (Selviana, Ayubbana, Pakarti, 2024).

Independent nursing action in dealing with acute pain is very necessary to increase patient comfort with the aim of reducing pain. One way is by providing non-pharmacological therapy, a combination of deep breathing relaxation techniques and warm compresses. Deep breathing relaxation is a technique for releasing mental and physical tension and stress to increase pain tolerance. When using deep breathing techniques, you must be in a comfortable, calm and relaxed atmosphere so that the goals of this technique can be achieved (Utami, Muzaki, Widodo, 2021). Meanwhile, a warm compress is a method of using local warm temperatures which can cause physiological effects. Warm compresses can be used to treat pain and relax tense muscles. The pain scale is also influenced by several risk factors that can cause increased pain, such as fatigue, anxiety, stress, activity, and previous history of pain (Rahmadhayanti, Afriyani, Wulandari, 2021)

The implementation of deep breathing relaxation techniques given to intervention patients is carried out 2 times a day and carried out for 3 consecutive days, this is in line with research conducted by Rifka Zalila et al, in 2022 (Rifka Zalila, Rika Saputri and Sania Lia Putri Fitriani, 2023). Meanwhile, the implementation of warm compresses given to intervention patients is carried out 2 times a day for 3 consecutive days with a time of 15 minutes for each implementation in accordance with research conducted by Dona Selviana et al, 2024 (Selviana, Ayubbana, Pakarti, 2024).

## CONCLUSIONS

Based on the results of the study of the application of a combination of deep breathing relaxation and warm compresses to reduce pain in intervention patients, it can be concluded that the intensity of pain before being given a combination of deep breathing relaxation and warm compresses to intervention patients was found on the first day with the highest pain scale being on a scale of 6 down to 4, on the first day the second pain scale from 4 decreased to 2. After three days of giving a combination of deep breathing relaxation and warm compresses the pain scale decreased to 0. This proves that there is a significant influence between reducing the pain scale in dyspepsia patients before and after being given a combination of deep breathing relaxation and warm compresses.

Meanwhile, in control patients there was also a decrease in pain on the first day with the highest pain scale being 7, on the second day the pain scale decreased to 6 and on the third day to 1. There was a decrease in the pain scale in control patients but not significantly.

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