



## Case Study of Progressive Muscle Relaxation Intervention to Reduce Pain in Appendicitis Patient

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### ABSTRACT

**Objective:** This case study was conducted to describe a progressive muscle relaxation intervention in reducing pain in appendicitis patients.

**Methods:** This study uses a case study design with an evidence-based practice approach that focuses on nursing interventions. This research was conducted at the BLUD RSU Banjar City on 27-31 May 2022. Participants in this study were Ny patients. C, 35 years old, female, complains of right lower quadrant abdominal pain. The process of assessing and establishing a diagnosis is focused on the main problem. Objective and subjective data becomes a reference for periodic evaluation of nursing implementation.

**Results:** Patients gave recognition of decreased pain after being given a progressive muscle relaxation intervention with a pain scale of 4 out of 5 (0-10) and a scale of 3 out of 4 (0-10).

**Conclusion:** Progressive muscle relaxation intervention should be suspected to be effective in reducing pain in appendicitis patients as evidenced by subjective patient recognition. Theoretically, this study does not conflict with previous research so that it can be a reference in future research. Theoretically, this research does not conflict with previous research so that it can be a reference in future research. Clinically, progressive muscle relaxation intervention can be an alternative intervention to reduce pain levels in patients with chronic diseases such as appendicitis in hospitals and health centers.

**Keywords:** appendicitis, pain, relaxation

## Introduction

Appendicitis is inflammation due to infection of the appendix or appendix that occurs suddenly, shaped like a 5-10 cm tube that is connected to the large intestine (caecum) (Aprilia, 2020). Complaining of appendicitis that begins with pain in the umbilical area with nausea, ranging from 2 to 12 hours, the pain shifts to the right lower quadrant of the abdomen, persists and is aggravated when walking (Simamora et al., 2021). Based on data according to WHO (World Health Organization) cases of appendicitis in the world are quite large. The number of deaths due to appendicitis reached 21,000 people, of which the population was 11,000 men and 10,000 women (Wati Et Al., 2020). As many as 596,132 people (3.36%) in Indonesia suffered from appendicitis in 2016, an increase of 621,435 (3.35%) in 2017. The number of cases of appendicitis in Central Java was 1,355 and 190 people died. Meanwhile, West Java province has 7,463 people with appendicitis. From the results of the Medical Record RSUP Dr. Hasan Sadikin Bandung informed that in 2017 a total of 192 people had appendicitis, often found among men aged 30 years and over (Kurniawati & Kadir, 2020). However, in children less than one year of age, the appendix is reported unevenly because the appendix in babies is conical in shape, large at the base and narrowing towards the tip. This is due to the low intensity of people with appendicitis at that age (Huda, 2019). Appendicitis is caused by a bacterial infection (*E. histolytica*) in this condition the bacteria grow rapidly, causing the caecum to become inflamed and swollen (Ismail, 2019).

One of the signs and symptoms felt in patients with appendicitis is pain or discomfort around the umbilicus, or the so-called abdominal vortex area. This indication is even more than 1 to 2 days and the pain will cause every few hours to the right lower quadrant of the abdomen accompanied by decreased appetite, dizzy eyes, nausea and vomiting (Aini, 2018). Nursing independent actions can be done by reducing pain in appendicitis patients, one of which is by teaching progressive muscle relaxation techniques. Is one technique that can reduce the level of pain between tensing the muscles, taking a deep breath through the nose out through the mouth like whistling, and can reduce muscle tension due to the pain felt and then relax it (Wahyu Setiyawan, 2020). The results of research conducted by Hasbi and Cahyati in 2020, after showing that before giving progressive muscle relaxation therapy, patients with appendicitis were able to reduce pain by giving the progressive muscle relaxation therapy (Malinda & Wulandari, 2022). Therefore, from the results of the description above, the researcher can conclude that patients with appendicitis can experience a decrease in pain from one to two numbers on the previous pain scale where initially moderate pain becomes mild pain. Explains that the relaxation of progressive muscle therapy can have an effect on reducing pain in appendicitis patients (Rahmawati, 2018). Until then, the author is interested in taking a case study with the title "Case Study of Progressive Muscle Relaxation Technique Interventions to Reduce Pain in Appendicitis Patients"

## Objective

This case study was conducted to describe a progressive muscle relaxation intervention in reducing pain in appendicitis patients.

## Method

This research uses a case study with an approach to implementation of evidence based practice focusing on nursing actions. This research was conducted at the BLUD RSU Banjar City on 27-31 May 2022. The participants in this study were the patient Mrs. C, 35 years old, a woman complains of pain in the right lower quadrant of the abdomen. The assessment process establishes a diagnosis focused on the main problem. Through objective and subjective data, it becomes a reference for evaluation, implementation, periodically. Research location and time May 2022 The discovery was carried out at the BLUD RSU Banjar City on 27-31 May 2022. For population and sample researchers only use 1 person who is considered to represent the entire population of appendicitis.

Data collection the method in descriptive research is by conducting questions and answers, where the author can get verbal information from a target researcher by conversing through the person (face to face). The method in descriptive research is by conducting questions and answers, where the author can get verbal information from a target researcher by conversing through the person (face to face). Studi kasus obtained from the author's data through direct interviews with patients who have appendicitis. The interview includes anamnesis, containing the main complaint. Sources obtained from data from patients, families and other nurses. The second data is by using observation and physical examination where the researcher and the view through the use of the senses are certain on what is seen (towards the behavior, area, both social and material of the individual or group being observed). Observing is a planning procedure, which includes seeing and recording the number and certain activities related to the problem under study (Sidiq Et Al., 2019).

From the findings obtained between observations in patients who have appendicitis the problem is determined or selected by the researcher. So in observing the patient only visited, looked at or watched. However, accompanied by mental activity or very special attention from taking notes (Setiyawati, 2019).

Processing and data analysis From the identification results, the management obtains facts, then compares the existing theory and then gives it based on the subject using the findings generated in the discussion opinion.

## Result

From the results of the intervention on the first day the client revealed the pain disappeared with a pain scale of 4 out of 5 (0-10) from the second day the patient said the pain scale decreased 3 out of 4 (0-10). The patient also understands how to do progressive muscle relaxation therapy and it has been applied in times of pain.

The provision of progressive muscle relaxation intervention is the procedure for providing progressive muscle relaxation therapy intervention by building a trusting relationship, positioning the patient to lie down or sitting in a chair, instruct the patient to find a position as comfortable as possible. Instruct the patient to inhale deeply through the nose and then exhale through the mouth as if whistling. Clench your palms together and tighten your biceps and forearms for 5-7 seconds. And fully stretch the muscle then relax it for 12-30 seconds. This technique is repeated in 2 to 3 times. If the area is still painful then do it 5 times by looking at the patient's response.

Table 1. Nursing Evaluation

Nursing diagnoses	Evaluasi	
	First day	Second day
Acute pain related to obstruction of the appendix lumen.	<p>S: The client states the pain is reduced on a pain scale of 4 out of 5 (0-10)</p> <p>O: The patient does not appear to be grimacing</p> <p>A: Acute pain related to obstruction of the lumen of the appendix.</p> <p>P: Continue to apply progressive muscle relaxation</p> <p>I: Melakukan intervensi relaksasi otot progresif</p> <p>E: The patient understands how to deal with pain using progressive muscle relaxation.</p> <p>R: Continue progressive muscle relaxation interventions</p>	<p>S: The patient said the pain was reduced on a scale of 3 out of (0-10)</p> <p>O: The patient does not appear to be grimacing</p> <p>A: Acute pain related to obstruction of the lumen of the appendix.</p> <p>P: Continue to apply progressive muscle relaxation if pain persists..</p> <p>I: Progressive muscle relaxation interventions</p> <p>E: The patient already understands how to deal with pain using progressive muscle relaxation</p> <p>R: Intervention discontinued</p>

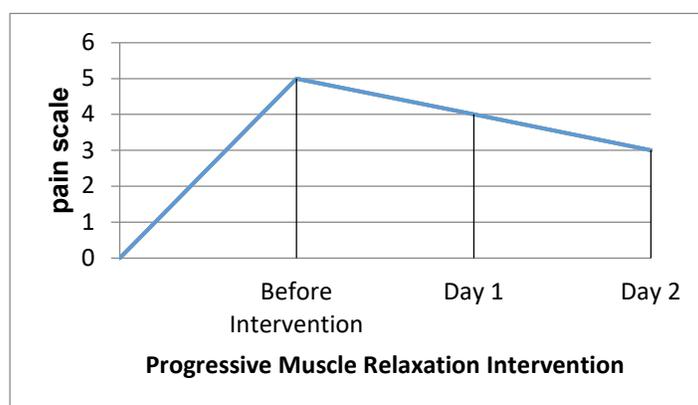


Figure 1. Pain Level Development

## Discussion

Based on the description above, the results of the study found patient complaints of right lower quadrant abdominal pain. With a pain scale of 5 from (0-10) using a numeric rating scale. Physical examination showed a respiratory rate of 20 times per minute with a blood pressure of 110/80 mmHg, a temperature of 36.7°C, a RR frequency of 84 times per minute and an oxygen saturation of 98%. From the study, it was found that patient data said lower abdominal pain (Auberta Deva Rivalda, 2021). One of the evidences that the patient experiences pain is the patient's confession who said that the patient was worried that appendicitis could not be cured and experienced a high level of severity. The patient's acknowledgment of his health condition both physically and physiologically is subjective data that can be accepted as one of the

considerations in determining nursing diagnoses (Yunike, Kusumawaty, Kp, Ramadhanti, & Kep, 2022). Therefore, the diagnosis obtained based on the results of the assessment is acute pain associated with obstruction of the appendix lumen. In theory, pain is unpleasant sensory and emotional knowledge caused by damage to tissues, both actual and potential described in the form of such damage, where a person feels uncomfortable and unpleasant. (Vitani, 2019). In nursing diagnoses, pain is included in the diagnosis group with acute pain problems with the diagnosis number 0077 page 172. To overcome this problem, the researcher carried out nursing interventions and implementations in accordance with Indonesian nursing intervention standards number I. 08238 page 201, among others, identifying pain scales, identifying locations pain, pain characteristics, pain duration, pain quality, and pain intensity subjectively and objectively (Kumalasari S Et Al., 2020). Therapeutic, providing non-pharmacological techniques to reduce pain. However, researchers feel the need to add non-pharmacological interventions in the form of progressive muscle relaxation interventions (Wijaya & Nurhidayati, 2020). Results of the nursing evaluation showed positive changes to the patient's physiological status in the form of acute pain. The patient claimed to understand how to deal with acute pain with progressive muscle relaxation therapy after 2 times of intervention. This result is in line with the findings. Which provides 2 interventions for 2 days in appendicitis patients. With the results of the intervention on the first day, it showed a decrease in scale 1 time in 1 day and on the second day it decreased to 2 from scale 4 for 2 days.

## Conclusion

Progressive muscle relaxation intervention should be suspected to be effective in reducing pain in appendicitis patients as evidenced by subjective and objective patient recognition supported by patient admissions who said right lower quadrant abdominal pain, with a decrease in pain scale 4 (0-10) from 5 (0-10). The decrease in pain occurs as one of the impacts of the intervention given in the form of a reduction in the pain scale, the emergence of relaxation, directly reducing pain as an indicator for a physical examination. In addition, the researcher did not find a significant gap between theory and facts that hindered the results of the study, therefore this study does not contradict the findings made by previous researchers.

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