Journal of Health Science and Medical Therapy
E-ISSN 3024-8132 P-ISSN 3024-8116
Volume 2 Issue 01, January 2024, Pp. 54-62
DOI: https://doi.org/10.59653/jhsmt.v2i01.443

Benson Relaxation Techniques on Reducing Pain Scale and Sleep Quality in Post Appendectomy Patients

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Received: 02-12-2023 *Reviewed: 03-12-2023* *Accepted: 08-12-2023*

Abstract

Acute pain is pain that arises suddenly and does not last long like post-surgery. Postoperative appendectomy affects the person's sleep quality being disrupted due to the stress and pain. The purpose of this study was to determine the effect of Benson's relaxation on pain scale and sleep quality in post-appendectomy surgery patients. The type of research was quantitative research. It was conducted by experimental research with a quasi-experimental research design with a pretest and posttest design. The population was all postoperative appendectomy patients in the operating room of RSUD Dr. Achmad Mochtar Bukittinggi. By using accidental sampling technique, 20 respondents were chosen as the samples. The data were processed by univariate and bivariate analysis by using the Wilcolxon test on the pain scale and the T Test Dependent test on sleep quality. The average pain score of respondents before the intervention was 2.6 (moderate pain) and the average score after the intervention was 3.9 (pain decreased), while the average quality of sleep before the intervention was 8.4, and the average quality of sleep after the intervention was 5.95. Benson's relaxation has an effect on pain, this is shown by using the Wilcolxon test with a p-value of 0.00 4 ≤ 0.05, and Benson's relaxation has an effect on sleep quality, this is shown by using the Dependent T test with a p- value of 0.000 ≤ 0.05. It can be concluded that Benson relaxation has a significant effect on overcoming pain nursing problems and sleep quality in post-appendectomy surgery patients where there is a decrease in the average pain scale intensity and sleep quality.

Keywords: Benson Relaxation, Appendectomy, Pain, Sleep Quality

Introduction

Appendectomy is a treatment through a surgical procedure only for appendicitis or removal/removal of an infected appendix. Appendectomy is performed as soon as possible to reduce the risk of further perforation such as peritonitis or abscess (Kheru, 2022) . According to *the World Health Organization* (Khoiriyah 2020), in the United States appendicitis is the most frequently performed abdominal surgical emergency, with the number of sufferers in 2017 amounting to 734,138 people and increasing in 2018 to 739,177 people. In Indonesia, the incidence of appendicitis is reported to be 95 per 1000 population with the number of cases reaching 10 million each year and is the highest incidence in ASEAN. Medical Records Dr. RSUD. Achmad Mochtar Bukittinggi showed that in 2021 the number of appendectomies was 55 patients diagnosed with appendicitis, consisting of 27 male patients and 28 female patients with an average of 4 people per month, and increased in 2022 to 62 patients. consisting of 28 men and 34 women (Dr. Achmad Mochtar Hospital Medical Records, 2022).

Pain is an unpleasant and highly individual sensation that cannot be shared with others. . The pain stimulus can be a physical or mental stimulus, while the damage can occur in the actual tissue or in the individual's ego function. Appendectomy surgery is a potential or actual threat to a person's integrity, both bio-psycho-social, which can cause responses in the form of pain, anxiety and sleep quality that usually arise after surgery (Dikriansyah, 2018). The quality of pain in surgical patients usually feels hot and stabbing due to the incision. The level of pain felt during abdominal surgery, which can make it very difficult to sleep and can be easily awakened when already asleep.

Sleep quality is a state of sleep experienced by an individual resulting in freshness and fitness when awakened. Sleep quality covers quantitative aspects of sleep, such as sleep duration, sleep latency and objective aspects of sleep. Sleep quality is each person's ability to get appropriate REM and NREM sleep stages (Khasanah, 2012). Sleep is critical for cognitive performance, physiological processes, emotional regulation, and optimal quality of life. The function of sleep is *restorative (* repair) the body's organs (Mawaddah, 2021) .

Pain management is divided into two, namely pharmacological and non-pharmacological. Pharmacological management is in the form of drugs that have been recommended by doctors, one of which is intravenous injection, while non-pharmacological management consists of various intervention measures such as electrical nerve stimulation, acupuncture, relaxation techniques, guided imagination , *hypnosis* and therapeutic touch.

Non-pharmacological techniques are an *alternative way* to reduce pain, one of which is Benson relaxation therapy. Benson Relaxation is relaxation using breathing techniques that are commonly used in hospitals for patients who are experiencing pain or experiencing anxiety or sleep disorders. In Benson's relaxation there is the addition of an element of belief in the form of words which represent the anxiety that the patient is experiencing. The advantage of practicing relaxation techniques compared to other techniques is that they are easier to do and do not have any side effects (Palily 2017).

The way Benson's relaxation technique works is by focusing on certain words or sentences, saying them repeatedly with a regular *rhythm* , that is, with a regular rhythm accompanied by an attitude of surrender to God Almighty while taking deep breaths. Long breaths can provide sufficient energy, because in time Exhaling releases carbon dioxide (CO2) and when you inhale, you get oxygen which the body really needs to clean the blood and prevent damage to brain tissue due to lack of oxygen (hypoxia).

The breathing process in Benson's relaxation is the process of oxygen entering via the respiratory tract, then entering the lungs and being processed into the body, then it will be processed in the lungs, precisely in the bronchi and will be circulated to every part of the body via the veins. and pulse to meet oxygen needs.

This study aims to look at changes in pain intensity and sleep quality before and after being given Benson relaxation to treat pain and sleep quality in post-appendectomy patients.

Literature Review

Appendicitis is inflammation of the appendix which is dangerous if not treated immediately where a serious infection occurs which can cause rupture of the intestinal lumen (Indri, 2014) . Appendicitis is the most common surgical disease and is inflammation of the vermiform appendix due to obstruction in the intestinal lumen due to fecal clots, narrowing, entry of barium or viral infection (Oktaviani, 2019) .

Pain Concept

Pain is an unpleasant event in a person and can cause suffering/illness. The cause of pain is damaged tissue. Examples include broken bones, wounds, dizziness, toothache, and others. Pain is an unpleasant sensory and emotional experience related to actual or potential tissue damage (Setyawati, 2020) .

Pain is a warning sensation for the brain about some stimulus that causes damage to body tissue. Pain is an unpleasant sensory and emotional experience and is very subjective. Because the feeling of pain is different for each person in terms of scale or level (Yuliatun, 2008).

Measurement of pain intensity

Pain intensity is a description of how severe pain is felt by an individual. Measuring pain intensity is very subjective and individual and it is possible that pain of the same intensity is felt very differently by two different people. The most objective approach to measuring pain is using the body's physiological response to pain itself. However, measurements with this technique can also provide a definite picture of the pain itself.

Pain intensity assessment can be done using scales such as: numerical scale, descriptive scale and visual analog scale, and by using a pain scale level observation sheet using the Indonesian Nursing Outcome Standards (SLKI) book.

Signs of poor sleep quality can be divided into physical signs and psychological signs (Hidayat, 2015); Physical Signs Facial expressions (darkness around the eyes, swelling of the

eyelids, reddish conjunctiva and sunken looking eyes), excessive sleepiness (frequent yawning), inability to concentrate (lack of attention), visible signs of fatigue such as blurred vision, nausea and dizzy. Psychological Signs Withdrawal, apathy and decreased response, feeling unwell, lazy to talk, decreased memory, confusion, hallucinations and illusions of sight or hearing, decreased ability to make decisions or judgement.

Sleep Quality Measurement

The Pittsburgh Sleep Quality Index (PSQI) is an effective instrument used to measure sleep quality and sleep patterns in adults. PSQI was developed to measure and differentiate individuals with good sleep quality and poor sleep quality. Sleep quality is a complex phenomenon and involves several dimensions, all of which can be included in the PSQI. These dimensions include subjective sleep quality, sleep latency, sleep duration, sleep disorders, efficiency of sleep habits, use of sleeping medication, and sleep dysfunction during the day. These dimensions are assessed in the form of questions and have their respective assessment weights in accordance with standard standards (Mirghani et al, 2015).

Research Methods

This type of research is quantitative. This research was conducted experimentally (*Quasy experiment)* which aims to determine the symptoms or differences that arise due to certain treatments or *experiments* . This experimental research design is *a quasi-experiment* with a *pretest* and *posttest design design* (Notoadmodjo, 2017). Pain measurements were carried out using a questionnaire sheet taken from the SLKI book (Indonesian Nursing Outcome Standards) and sleep quality using a sleep quality questionnaire consisting of 15 questions and the Benson Relaxation Sop sheet.

The sampling technique in this research is *non-probability sampling* with an *accidental sampling technique* , namely a sampling technique based on respondents who happen to be present or available in a place according to the research context, namely 20 respondents to be treated for approximately 10-15 minutes for 3 days. This research has received ethical approval number 542/KEPK/XII/2022.

Results/Findings

Table 1
The effect of the Benson relaxation technique on pain in post-appendectomy patients at Dr. Achmad Mochtar Hospital, Bukittinggi

Pain intensity	N	Mean	elementary school	Mean Rank	*P-Value*
Pre Test	10	2.6	0.699	1.3	0.004
Post Test	10	3.9	0.568		

Table 1 shows that the difference in the average pain scale between before the intervention was 2.6 and changed to 3.9 after the intervention. The results of statistical analysis using the Wilcoxon test showed that there was a difference in the average pain before and after the intervention with an average difference of 1.3 and a *p-value* of 0.004, meaning that the administration of Benson relaxation therapy had a significant effect in overcoming post-appendectomy pain.

Table 2
The effect of the Benson relaxation technique on sleep quality in post-appendectomy patients at Dr. Achmad Mochtar Hospital Bukittinggi

Intensity of sleep quality	N	Mean	elementary school	Mean Different	*P-Value*
Pre Test	10	8.40	1,480	2.5	0,000
Post Test	10	5.95	1,442		

Table 2 shows that the difference in average sleep quality between before the intervention was 8.4 and changed to 5.95 after the intervention. The results of statistical analysis using the Dependent T-Test show that there is a difference in the average quality of sleep before and after the intervention with an average difference of 2.5 and a *p-value* of 0.000, meaning that the provision of Benson relaxation therapy has a significant effect in overcoming post-appendectomy pain. .

Discussion

The research results in table 5.3 show that the average pain intensity of respondents before being given the Benson therapy technique was 2.6 with a standard deviation of 0.699. The average *Minimum - Maximum score* in the group before being given the Benson therapy technique ranged from 2 - 4.

Pain is one of the most common complaints in patients after undergoing a wound care procedure (Smeltzer and Bare, 2012). Post-surgical pain is one of the most common complaints among patients in hospitals. As many as 77% of post-surgical patients (on day 2) received inadequate anti-pain treatment with 71% of patients still experiencing pain after being given medication and 80% described still experiencing moderate to severe pain (Andramoyo, 2019) .

Benson Relaxation is effective in reducing post-surgical pain. Benson relaxation was developed from the relaxation response method involving belief factors. The patient relaxes by repeating words or sentences that match the respondent's beliefs, thereby inhibiting noxious impulses in the descending control system *(gate control theory)* and increasing control over pain (Datak, 2018) .

The results of this study are in line with research (Morita, 2020), which explains that Benson relaxation can reduce pain in post-caesarean section surgery patients with the average value of the respondents' pain scale before being given Benson relaxation was 6.6.

The research results in table 5.4 show that the average pain intensity of respondents after being given the Benson therapy technique was 3.9 with a standard deviation of 0.567. The average Minimum-Maximum score in the group after being given the Benson therapy technique ranged from 3 – 5.

The results of this research are in line with research (Renaldi, 2020) which proves that Benson relaxation can reduce the level of pain perception in Post Laparotomy patients at Nyi Ageng Serang Regional Hospital, with the results showing that the level of pain in the intervention group before and after being given Benson relaxation therapy was that many respondents experienced The reduction in pain levels was shown by the results of the Wilcoxon statistical test with a p-value of 0.000 (P<0.05), which means that there was a difference in post-laparotomy pain levels.

The research results in table 5.5 show that the average sleep quality of respondents before being given the Benson therapy technique was 8.4 with a standard deviation of 1.480. The average Minimum-Maximum score in the group before being given the Benson therapy technique ranged from 6 – 11.

Sleep quality includes quantitative aspects of sleep, such as sleep duration, sleep latency as well as subjective aspects of sleep. Sleep quality is each person's ability to maintain a state of sleep and to achieve *rapid eye movement sleep stages* (REM) and normal non- *rapid eye movement (NREM)* (Rahman et al., 2019) .

Good quality sleep can speed up healing of illnesses suffered by patients, one of which is speeding up wound healing in post-operative patients. But in reality, patients who have undergone surgery experience sleep disturbances due to pain in the post-operative wound. So one intervention that nurses can provide to improve sleep quality for patients is Benson relaxation therapy (Rustiawati, 2019) .

The results of this research are in line with research conducted by Epi Rustiawati (2014), regarding the Influence of the Benson Relaxation Technique on Fulfilling the Sleep Needs of Post-Operational Patients in the Class 2 Surgical Treatment Room at Dr Dradjat Prawiranegarai Hospital. The results showed that the difference in mean sleep quality in post-operative patients before Benson relaxation intervention was carried out was 13.28.

The research results in table 5.6 show that the average sleep quality of respondents after being given the Benson therapy technique was 5.95 with a standard deviation of 1.442. The average Minimum-Maximum score in the group after being given the Benson therapy technique ranged from 4 – 8.5.

The results of this research are in line with research conducted by Epi Rustiawati (2014), regarding the Influence of the Benson Relaxation Technique on Fulfilling the Sleep Needs of Post-Operational Patients in the Class 2 Surgical Treatment Room at Dr Dradjat Prawiranegarai

Hospital. The results obtained were that the difference in mean sleep quality in post-operative patients before the Benson relaxation intervention was carried out was 13.28 and after the Benson relaxation intervention was carried out it was 7. A decrease in the score indicated an increase in the sleep quality of post-operative patients.

Nurses in their role as providers of nursing care, especially in reducing pain scale and sleep quality, are more sensitive to the population, especially individuals with various diseases who experience pain and sleep quality, based on the results of observations during research, families play an important role in accompanying patients in the Benson relaxation process, because This is able to reduce the pain scale and sleep quality by providing calm and psychological comfort to patients, especially post-appendectomy patients who experience pain and sleep quality.

Conclusion

It was found that the average difference before and after administering the Benson relaxation technique in reducing the pain scale, the average pain before and after relaxation was 3.9 with a difference of 1.3, with a *p-value* of 0.004 which can be said to have an influence on the relaxation technique. Benson on reducing the pain scale.

It was found that the average difference before and after administering the Benson relaxation technique to the patient's sleep quality, the average sleep quality before and after relaxation was 5.95 with a difference of 2.45, with a *p-value of* 0.000, which can be said to have an influence of the technique. Benson's relaxation on the sleep quality of post-appendectomy patients.

Declaration of conflicting interests

There is no conflict of interest in this work.

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