The difference in pain scale reduction in postoperative patients after the administration of slow deep breathing distraction-relaxation techniques with a religious approach in Bandar Lampung general hospital

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A B S T R A C T

The rate of surgery at the RSUD Dr. H Abdul Moeloek Lampung Province from January to December 2017 as many as 355 who underwent surgery with the most cases was Laparatomi. The pre-survey was conducted on 10 patients who experienced surgery, 8 people experienced pain with a scale of 10 and 2 people experienced a pain scale of less than 10. Patients said they began to feel pain between 3-4 hours after surgery, and pain management was done with a pharmacological approach alone namely by administering analgesics. This study found differences in post-operative patient pain scale reduction after administration of slow deep breathing distraction-relaxation techniques with a religious approach at Bandar Lampung General Hospital. The research design used was experimental research (one group pre-test and post-test design). The treatment given to respondents in the form of distraction-relaxation techniques is slow deep breathing with a religious approach to postoperative patients. The number of respondents was 60 respondents. Analysis of the data used is univariate analysis to see the frequency distribution and bivariate analysis using the statistical test used is the T dependent test. Decrease in pain scale postoperative patients after slow deep breathing with a religious approach of 2.17 with a standard deviation of 0.994. Statistical test results with dependent t-test obtained p value = 0,000. This p value is smaller than α (0.05) so that it can be concluded that slow deep breathing with a religious approach is effective in reducing the pain scale of postoperative patients. Suggestions for pain management in the form of breathing exercises Slow deep breathing should have started to be taught to patients since the preoperative phase along with other preoperative preparation exercises such as leg exercises and so on.

Keyword: pain management; religious; distraction; relaxation

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1. INTRODUCTION

Every surgical procedure will cause pain due to tissue breakdown (*injury*) and changes in tissue continuity. Postoperative pain is experienced by patients after surgery and is one of the most common complaints in patients in the hospital. Post-surgery the patient feels severe pain and 75% of patients have an unpleasant experience due to inadequate pain management (Ayudianningsih, 2009). The impact of uncontrolled acute pain in patients undergoing surgery is anxiety and fear of mobilizing as early as possible so that rehabilitation can be delayed and hospitalization takes longer (Patricia A. Potter & Perry, 2010). Another impact that occurs when a person is unable to overcome his pain is a change in personality and behavior such as: aggressive, irritable and not relaxed.

There is two management to deal with pain are pharmacological management and nonpharmacological management (Smeltzer, S.C., & Bare, 2010). Pain management is not only limited to the pharmacological approach because pain is also influenced by emotions and individual responses. As many as 77% of postoperative patients get inadequate pain treatment, 71% still experience pain after being given medication and 80% describe still experiencing moderate to severe pain.(Yuliawati,

2008) Non-pharmacological management to deal with pain other than with compresses, acupuncture, imagination guidance that is by relaxation and distraction techniques. *Slow deep breathing* is a relaxation technique that can reduce pain by stimulating the central nervous system namely the brain and spinal cord to produce endorphins that function as pain inhibitors (Aji, Armiyati, & Sn, 2015). Some research results recommend *slow deep breathing* for the management of non-pharmacological pain. The results of research on the effectiveness of *slow deep breathing* relaxation therapy and Benson's relaxation on decreasing cancer pain scale recommends *slow deep breathing* relaxation and Benson relaxation as an independent non-pharmacological nursing action to reduce cancer pain scale (Edi Ristiyanto, Mugi Hartoyo, n.d.). In post ORIF patients, *slow deep breathing* and autogenic relaxation are also recommended as nursing independent measures to reduce post ORIF pain (Aji et al., 2015). *Slow deep breathing* can also reduce acute pain complaints in mild head injury patients (Satmoko, 2015). The combination of *slow deep breathing* with *effleurage* techniques is effective against decrease intensity of dysmenorrhoea pain (Indah Astria, Sri Utami, 2015). In pediatric patients, *slow deep breathing* by playing blowing a propeller affects in reducing pain intensity in children who undergo injection of circumcision anesthesia (Hesti Wahyuni, Setyawati, 2015).

Previous studies have shown that *slow deep breathing* can be used as a single intervention or combined with other relaxation techniques such as Benson relaxation, autogenic relaxation, and *effleurage* techniques. In this study, the authors are interested in using a religious approach to *slow slow breathing*. *Slow deep breathing* with a religious approach is to practice deep breathing relaxation accompanied by a religious foundation that is by saying the dzikir. The use of this religious approach aims to provide a therapeutic effect for those who do it. Relaxation techniques combined with elements of belief in religion and God can increase the relaxation response stronger than just relaxation techniques.

The rate of surgery at one of general hospital in Lampung Province from January to December 2017 as many as 355 with the most cases was laparotomy. Pre-survey of 10 patients undergoing surgery, 8 patients experienced pain with a scale of 10. Patients said they began to feel pain between 3-4 hours after surgery, and pain management was done with a pharmacological approach that is analgesic administration. Based on the description above, the formulation of the problem in this study is "Is there a difference in the decrease in pain scale of postoperative patients after the administration of slow deep breathing distraction-relaxation techniques with the religious approach at Bandar Lampung General Hospital?"

2. MATERIALS AND METHOD

This type of research is quasi-experiment design (one group pretest and posttest design). The treatment is given to respondents in the form of distraction-relaxation techniques is slow deep breathing with a religious approach to postoperative patients. Respondents took initial measurement of pain scale (pretest), then received treatment (slow deep breathing with a religious approach) then followed by measurement of pain scale again (posttest).

The population is all of postoperative patients at regional public hospitals in Bandar Lampung. The number of samples was 60 respondents. The selection of respondents used a purposive sampling technique, with the consideration of researchers using inclusion criteria, namely postoperative patients on the first day who were hospitalized, compositional awareness, no impaired hearing function, no trauma to the mouth, and muslim.

Data collection was carried out after obtaining permission from the study site, with the following stages: the pre-interaction phase, the intervention phase, and the post-intervention phase. In the pre-interaction phase, the activities carried out are identifying prospective respondents who meet the inclusion criteria, providing an explanation of the

objectives, benefits, procedures to be carried out and asking prospective respondents to sign informed consent if they are willing to become respondents. Next, begin to do the initial measurement (pre-test) of the pain intensity of the respondents using the Numeric Scale Rating (NSR) pain assessment instrument. Activities in the Intervention phase are demonstrating how to do slow deep breathing with a religious approach :

1. Adjust the lying position
2. Both hands are placed on the stomach
3. Try to stay relaxed and calm
4. Close both eyes
5. Encourage deep breathing through the nose, feel the abdomen and chest slowly lifted.
6. Count to 4, inhale at a count of 1, 2 and 3 then exhale on the count of 4
7. Reading A'udzubillah himinasyaitonirrajim,
8. Reading Bismillahirrahmanirrahim
9. Reading "Subhanallah" (meaning most holy of God), "Walhamdulillah" (meaning and praise be to Allah), "Walailahaillallah" (meaning and there is no God but Allah), "Allahu Akbar" (meaning Allah is Great).
10. Repeat steps five through nine for 15 minutes

In the post-intervention phase, measure and record the respondent's pain scale with a numeric rating scale after the intervention (post-test).

Data analysis uses univariate and bivariate analysis. Univariate analysis in this study uses numerical data and interval data which are age, sex, previous operating experience, before pain scale and after pain scale. Bivariate analysis using the t dependent test was carried out to determine the difference between the independent variables namely the pain intensity scale before and after treatment with the dependent variable (slow deep breathing with a religious approach).

3. RESULTS AND DISCUSSION

The study was conducted in two regional public hospitals in Bandar Lampung. The results of the study were analyzed univariately and bivariate.

Table 1. Characteristics of Respondents by Gender, Operating Experience, and Types of Anesthesia in Bandar Lampung Hospital in 2018

Characteristics of Respondents	f	%
Gender		
Male	34	56,7
Female	26	43,3
Amount	60	100
Operating Experience		
No	44	73,3
Yes	16	26,7
Amount	60	100
Types of Anesthesia		
General Anesthesia	43	71,7
Region Anesthesia	17	28,3
Amount	60	100

Characteristics of respondents consisted of 56.7% men and 43.4% women, the majority of respondents (73.3%) had never had surgery before, and as many as 26.7% had had surgery. Respondents with general anesthesia were 71.7% and the remaining 28.3% were local anesthesia (Table 1).

Table 2. Pain scale of postoperative patients before and after slow deep breathing with a religious approach at Bandar Lampung Hospital in 2018.

Variable	Mean	Median	Standard Deviation	Min-Max
Pain scale of postoperative patients before *slow deep breathing* with a religious approach	8,92	10,00	1,418	4-10
Pain scale of postoperative patients after *slow deep breathing* with a religious approach	6,75	7,00	1,723	1-10

The scale of postoperative pain patients before slow deep breathing with the religious approach at Bandar Lampung Hospital is a mean 8.92, a median of 10.00 with a standard deviation of 1.418. The lowest pain scale was 4 and the highest was 10. The pain scale of postoperative patients after slow deep breathing with the religious approach at Bandar Lampung Hospital was a mean 6.75, a median of 7.00 with a standard deviation of 1.723. The lowest pain scale is 1 and the highest is 10 (Table 2).

Respondent pain scale before administration of slow deep breathing distraction technique with the average religious approach is in range of severe pain (7-9). Pain is a personal, subjective experience, which is influenced by culture, one's perception, attention, and other psychological variables, which interfere with ongoing behavior and motivate everyone to stop the feeling (Ayudianningsih, 2009).Pain experienced by the respondent occurs as a result of a reaction from network damage relating to the operation he just underwent. The International Association for the Study of Pain (International Association for the Study of Pain) defines pain as a subjective sensory and unpleasant emotional experience associated with actual, potential, or perceived tissue damage in events when damage occurs. Post-surgery the patient feels severe pain and 75% of patients have a less pleasant experience due to inadequate pain management (Aji et al., 2015).

Prospective studies of pain intensity within 24 hours obtained pain results are the most common complaints submitted by patients in 0-4 hours postoperatively. Pain in this period time is a severe category of pain because recovery of postoperative patients requires an average of 72.45 minutes, so that on average in the first two hours after surgery the patient will feel severe pain because the influence of the anesthetic drug has disappeared and the surgical wound is still in the inflammatory phase (Ayudianningsih, 2009). The results of the study found the majority of respondents as many as 31 (51.7%) included in the category of severe pain whose pain scale reached a maximum value (value 10), as many as 25 respondents (41.7%) pain scale between 7-9 (severe pain) and 4 respondents (6.7%) on a scale of 4-6 (moderate pain). The results of this study are relevant to previous studies where as many as 77% of postoperative patients received inadequate pain treatment, 71% still experienced pain after being given medication and 80% described still experiencing moderate to severe pain (Hesti Wahyuni, Setyawati, 2015).

The level and severity of postoperative pain depend on the physiological and psychological response of the individual and the tolerance caused by pain and how the individual perceives It (Edi Ristiyanto, Mugi Hartoyo, n.d.). A person's ability to perceive pain is influenced by many factors that can increase or decrease pain perception, increase and decrease tolerance to pain and also affect the attitude or response to pain. Characteristics of respondents who allegedly influenced the patient's pain response were previous operating experiences, as many as 31 respondents (73.3%) claimed they were

undergoing surgery for the first time, and 24 (54.5%) of them were pain scale 10. Each individual learned from previous pain experiences However, this does not mean that the individual will be easy and ready to face pain in the future, as obtained in the results of the study, there are 7 respondents (11.7%) who have undergone surgery but the pain scale is 10. Other characteristics are the majority of respondents (56, 7%) gender is male, although there is an opinion that says male gender tends to be intolerant of pain but in theory tolerance of pain is influenced by biochemical factors and is unique to every individual regardless of gender. The majority of respondents (71.7%) in this study were postoperative with general anesthesia, which indicates that the operation that the respondent underwent was major surgery such as laparotomy, mastectomy, ORIF, amputation, and so on.

Table 3. Difference in pain scale of postoperative patients after slow deep breathing with a religious approach in Bandar Lampung Hospital in 2018

Mean	Median	Standard Deviation	Min-Max
2,17	2,00	0,994	0-5

Difference in the scale of post-operative pain patients after slow deep breathing with a religious approach at Bandar Lampung Hospital is a mean 2.17, a median of 2.00 with a standard deviation of 0.994. The difference between the lowest pain scale is 0 points and the highest is 5 points (Table 3).

Table 4. T-test of the pain scale of post-operative patients after slow deep breathing with a religious approach at Bandar Lampung Hospital in 2018

			T-test Dependent		
N	Mean	SD	SE	P-*Value*	95%CI
60	2.17	0.994	0.120	0,000	1,91-2,42

The average reduction in pain scale of postoperative patients after slow deep breathing with a religious approach of 2.17 with a standard deviation of 0.994. Statistical test results with dependent t-test obtained p-value = 0,000. This p-value is smaller than (0.05) so that it can be concluded that slow deep breathing with a religious approach is effective in reducing the pain scale of postoperative patients (Table 4).

The pain scale of the respondents after slow deep breathing with the religious approach is in the range of values from 1 to 9 and the majority of respondents are on the pain scale 8 (severe pain) as many as 20 respondents (33.3%) and only 1 respondent (1.7%) which has a pain scale 10. Research at RSUD dr. Moewardi Surakarta that deep breathing relaxation techniques can reduce the pain scale of postoperative patients from scale 6 (moderate pain) to scale 3 (mild pain) (Hesti Wahyuni, Setyawati, 2015). Postoperative pain is a stressor for the patient, anxiety, and tension experienced by the patient during surgery will increase the feeling patient pain. Pain management is not only by a pharmacological approach in the form of analgesics but also using non-pharmacological approaches, one of which is relaxation and distraction techniques.

Slow Deep Breathing is a conscious action to regulate breathing deeply and slowly which can have a relaxing and distracting effect. Slow deep breathing is one of the relaxation exercises to reduce psychological discomfort when pain is in progress. This is in accordance with the open gate theory, where this theory states that with an external stimulation, impulses transmitted by large diameter fibers will inhibit the impulses of small diameter fibers, so that the sensation carried by small fibers will be reduced or not delivered to brain by subtansia gelatinosa, therefore the sensation of pain will be reduced

or even absent. In addition to slow deep breathing, it will increase the supply of oxygen to the network, thereby reducing pain (Patricia A. Potter & Perry, 2010). Slow deep breathing is done with a religious approach that is saying the dzikir sentence after breathing exercises. Recitation of dzikir can awaken confidence, strength, feeling safe, peaceful, and giving a feeling of happiness. Medically it is also known that people who are accustomed to remembrance remember Allah automatically the brain will respond to release endorphins which can cause feelings of happiness and comfort.

The combination of relaxation techniques and slow deep breathing distraction with a religious approach based on the results of the study found that most respondents (95%) experienced a decrease in pain scale. The t-test results obtained p-value of 0,000 which means there is a difference in the pain scale decrease in postoperative patients after slow deep breathing with a religious approach. The average decrease is 2.17 points, with a minimum decrease of 0 which means there is no decrease and the maximum value is 5. The advantage of relaxation technique training is that it is easier to do even under any conditions, has no side effects and can be modified as needed. Research on slow deep breathing has been done by blowing a propeller or other modifications. The results showed that there was an effect of slow deep breathing therapy by playing propeller blows on the intensity of pain in children undergoing circumcision anesthetic injection (Hesti Wahyuni, Setyawati, 2015). Distraction can reduce pain perception by stimulating the descending control system, so that a little pain stimulation is transmitted to the brain. The effectiveness of distraction depends on the client's ability to receive and generate sensory input in addition to pain .

The results showed that most respondents (53.3%) had a pain scale of 2 points lower than the initial value after slow deep breathing with a religious approach. The religious approach taken in this research is to say the dzikir sentence after breathing exercises (slow deep breathing). The meaning contained in the dzikir sentence is Subhanallah, Alhamdulilah, Allahu Akbar, among others: the form of one's submission to his Lord, so that it will bring up hope and a positive outlook on life and provide peace of mind, as a form of repentance to God so that it will strengthen someone in facing challenges which will occur such as death and complications due to pain experienced by a form of gratitude to God, so that with gratitude always think positive, always see things from the positive side, give a positive meaning to each event, and be patient with difficulties. When someone always says positive sentences, positive sentences are believed to be able to produce positive thoughts and emotions. Positive emotions can stimulate limbic work to produce endorphine. Endorphine can cause feelings of euphoria, happiness, comfort, create calm and improve one's mood to make a person energized.

From the description above it can be concluded that the relaxation technique combined with the reading of dzikir can cause a relaxation response in patients. The relaxation response caused by the parasympathetic nerve works by stimulating the adrenal medulla to decrease epinephrine, norepinephrine, cortisol release and increase nitric oxide. This situation will cause changes in the body's response such as decreased pulse, blood pressure, oxygen consumption, body metabolism, lactate production, and someone feels comfortable. Nurses play a role in identifying patient needs and helping patients meet those needs including pain management. Appropriate pain management includes handling as a whole, not just limited to pharmacological approaches, because pain is also influenced by emotions and individual responses to him. Relaxation and distraction techniques are non-pharmacological approaches for pain relief when treating postoperative patients.

4. CONCLUSION

Conclusions obtained from the results of the study are the pain scale of the postoperative patients before slow deep breathing with a religious approach in the category of severe pain and after slow deep breathing within the moderate pain category.

Slow deep breathing with a religious approach is effective in reducing the pain scale of postoperative patients. Suggestions, The nurse responsible for the patient needs to provide an explanation or information about the operation to be undertaken, especially for patients who are undergoing surgery for the first time because a person's ability to perceive pain is influenced by a number of factors that can increase or decrease perception, tolerance and attitude or response to pain, one of which is a previous operating experience. Pain management in the form of breathing exercises Slow deep breathing should have started to be taught to patients since the preoperative phase along with other preoperative preparation exercises such as leg exercises and so on. The goal is that patients can immediately do the exercise in the postoperative phase to speed up the healing process. Slow deep breathing that is taught to patients carried out with a religious approach that is saying the dhikr sentence is able to provide a calming effect, and distract the patient from the pain he feels, so it is recommended to researchers who are interested in continuing this research in order to be able to use other religious approaches that it is usually done by patients.

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