

Effect of Deep Breathing Relaxation Techniques for Reducing Pain after Hernia Surgery in Inpatient of Regional Hospital Pariaman West Sumatera Indonesia

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ABSTRACT

Background: Relaxation technique is one method of non-pharmacological pain management and strategies. The aim of the study was determine effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient of regional hospital Pariaman, West Sumatera Indonesia.

Methods: The study was conducted using a quasi experiment with pretest-posttest non-equivalent control group design. Data were collected in Inpatient of Regional Hospital West Sumatera Province Indonesia. The populations in this study were all hernia surgery patients with sample size 10 respondents (5 intervention group and 5 control group). Sampling technique with accidental sampling. Data analysis used paired sample T test. A two-tailed *P*-value of <0.05 was considered statistically significant. All data were analysed using SPSS 21.0 program.

Results: The results of the study were found the effect of of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient between intervention group ($p < 0.05$). But in control group did not effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient ($p > 0.05$).

Conclusion: This analysis confirmed effect of of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient. Based on the results of this study it is recommended to health care agencies to provide non-pharmacological therapy, namely deep breathing relaxation techniques.

Keywords: Deep Breathing Relaxation, Hernia Surgery, Pain

INTRODUCTION

Hernia can occur at any age, especially in productive age and surgery is one way to handle it. Surgical intervention is the only way to overcome a hernia that has undergone strangulation. Around 20 million people in the world have one hernia surgical intervention each year. [1] Hernia incidents ranked in the top five that occurred in the United States in 2007 around 700,000 hernia operations were carried out annually. [2] The percentage of

hernia in Spain based on the age category known at the age of 25 years there are around 24%, 65 years were 40% and 70 years were 47%. [3] Previous study in Sweden from 2,456 hernia undergoing surgery, there were 758 patients who reported the occurrence of pain to some extent. [4] Indonesian data showed that there were 15% of the adult population suffering from hernia, 5-8% in the age range of 25-40 years and reaching 45% at the age of 75 years. [5]

Postoperative hernia problems that often arise were pain. Handling of pain in patients after hernia surgery can be done through pharmacological methods and non-pharmacological methods. One of the recommended non-pharmacological actions is to use deep breathing relaxation techniques. The technique of breathing relaxation in itself is an act of nursing care, which in this case the nurse teaches patients how to do deep breathing techniques, slow breathing (hold inspiration to the maximum) and how to exhale slowly. In addition to reducing pain intensity, deep breathing relaxation techniques can also improve lung ventilation and increase blood oxygenation. [6]

Non-pharmacological therapy in this case deep breathing relaxation techniques can reduce pain intensity. Previous study known deep breathing relaxation techniques can reduce pain after Hernia Surgery. [7]

The aim of the study was determine effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient of regional hospital Pariaman, West Sumatera Indonesia.

MATERIALS & METHODS

Study Design and Research Sample

The study was conducted using a quasi experiment with pretest-posttest non-equivalent control group design. Data were collected in Inpatient of Regional Hospital West Sumatera Province Indonesia. The populations in this study were all hernia surgery patients with sample size 10 respondents (5 intervention group and 5 control group). Sampling technique with accidental sampling.

Operational Definitions

The variables of this study included independent variable was deep breathing relaxation techniques. Dependent variable pain after Hernia Surgery.

Data Collection Technique

For the study group, the researchers educated the patient the technique of breathing exercises including instructing breathe in slowly and as deeply as possible

through the nose or mouth to take as much air as possible into lungs, hold breath for a while, and then breathe the air out slowly through mouth/device until have some air left in lungs. Instructions for expiration may vary from “a normal relaxed expiration” to a “slightly activated expiration” if the pursed lip technique is used. Plenty of time should be allowed for the inspiration and expiration, and enough time should be allowed between each breath to prevent fatigue. It is important that clear instructions be given, including a practical demonstration. In clinical practice, patients often perform breathing exercises without supervision; however, supervised breathing exercises may be more effective than self-directed breathing exercises. It is worth noting the patients’ impression of comfort and benefit of the breathing exercises. Willingness to perform the exercises may increase if the patient feels the breathing exercises are working well. This study was approved by the Ethical Committee of Universitas Negeri Padang, West Sumatera Indonesia.

Data Analysis

The quantitative variables were recorded as frequency and percentage. Data analysis used paired sample T test. A two-tailed *P*-value of <0.05 was considered statistically significant. All data were analysed using SPSS 21.0 program.

RESULT

Characteristic of respondents (Table 1).

Table 1: Characteristic of respondents

Variables	f/%
Age (years)	
50-64	8 (80.0)
≥ 65	2 (20.0)
Sex	
Male	6 (60.0)
Female	4 (40.0)

Table 1 known most respondents were 50-64 years (80.0%) and less than of respondents were ≥ 65. More than half respondents were male (60.0%) and female (40.0%).

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Table 2: Deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient of regional hospital Pariaman, West Sumatera Indonesia

Pain level	Intervention group (n=5)		Control group (n=5)	
	Pretest (f/%)	Posttest (f/%)	Pretest (f/%)	Posttest (f/%)
Mild	0	0	0	0
Moderate	3 (60.0)	5 (100.0)	2 (40.0)	2 (40.0)
Heavy	2 (40.0)	0	3 (60.0)	3 (60.0)

Table 2 known more than half respondents (60.0%) pain level in pretest intervention group moderate and heavy (40.0%), after posttest intervention group moderate pain level (100.0%).

Table 3: The effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient of regional hospital Pariaman, West Sumatera Indonesia

Variable	ΔMean±SD	SE	p-value
Pretest-posttest intervention	2.60±0.55	0.25	<0.001
Pretest-posttest control	0.20±0.45	0.20	0.374

Table 3 known there were found the effect of of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient between intervention group (p<0.05). But in control group did not effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient (p>0.05).

DISCUSSION

The results of this study known there were found the effect of of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient between intervention group. But in control group did not effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient. This is in accordance with the theory of which says that there were several non-pharmacological therapies to reduce pain by deep breathing relaxation techniques. This relaxation technique itself is an effective technique for controlling discomfort.

Analysis of researchers with deep breathing relaxation techniques should have been done by postoperative patients. Because based on the results of research conducted turned out to show this method can reduce pain in respondents with post

surgery. In accordance with the theory put forward by previous study how to deal with pain in a non-pharmacological manner, especially deep breathing relaxation techniques. Relaxation can have a direct effect on bodily functions. The effect of this relaxation is that it can reduce muscle tension that supports pain, especially postoperative pain. [8]

Pain is a sensing and emotional experience of someone who does not provide comfort accompanied by potential and actual tissue damage The International Association For The Study Of Pain (IASP). According to previous study explains that pain is an uncomfortable sensation in someone which cannot be transmitted to others. [10]

The results of the analysis from another study stated that relaxation techniques affect the pain adaptation response. There was an influence of relaxation techniques on pain adaptation response. [9] Postoperative hernia problems that often arise were pain. Handling of pain in patients after hernia surgery can be done through pharmacological methods and non-pharmacological methods. One of the recommended non-pharmacological actions is to use deep breathing relaxation techniques. The technique of breathing relaxation in itself is an act of nursing care, which in this case the nurse teaches patients how to do deep breathing techniques, slow breathing (hold inspiration to the maximum) and how to exhale slowly. In addition to reducing pain intensity, deep breathing relaxation techniques can also improve lung ventilation and increase blood oxygenation. [6]

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CONCLUSION

The conclusion of this study confirmed there were found the effect of of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient between intervention group. But in control group did not effect of deep breathing relaxation techniques for reducing pain after Hernia Surgery in inpatient.

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How to cite this article: Asman A, Maifita Y. Effect of deep breathing relaxation techniques for reducing pain after hernia surgery in inpatient of regional hospital Pariaman West Sumatera Indonesia. *International Journal of Research and Review*. 2019; 6(8):444-447.
