

The Effect of Deep Breath Relaxation Techniques on Pain Reduction in Post-Op Appendicitis Patients : Literature Review

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 OPEN ACCESS

International Journal of Holistic Care

Volume 2 No.1 Pg. 15-23
©The Author(s) 2026

Article Info

Submit : 10 December 2025
Review : 20 December 2025
Accepted : 11 January 2026
Available : 25 January 2026
Online

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[International Journal of Holistic Care](#)

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ABSTRACT

Appendicitis is the infection that most often affects the vermiformis pendiks, which is the intestine that is shaped like a tube and similar to a worm tumble whose position is located in the lower right abdomen. In patients with appendicitis, they will experience pain, one of the non-pharmacological actions to overcome pain is by performing deep breathing relaxation techniques. This study aimed to determine the effect of deep breathing relaxation techniques on pain reduction in post-Op appendicitis patients. This study used a literature review study method using literature sources in the form of published scientific articles and conducting a search using google scholar from 2013-2023. There was an effect of giving deep breath relaxation techniques on post-op appendicitis pain. Deep breathing relaxation is one of the non-pharmacological techniques that can be used to manage post-op pain in Appendicitis patients that is easy to apply.

Keywords: Appendicitis; Pain; Deep Breathing Relaxation

INTRODUCTION

Appendicitis is a condition that causes worm tuber infections. In some mild cases it can heal without complications, but many cases require laparoscopy by trying to treat the infected worm tuf. If this condition is not treated immediately, it can be fatal (Kowalak, 2011).

The incidence of appendicitis is quite high worldwide. According to the World Health Organization (WHO, 2010) quoted by Naulibasa (2011), the number of people who die from pendicitis every year is 21,000 people, with the number of women much more than men. About 12,000 of the victims were men, and about 10,000 of the victims were women. Every year, there are 70,000 cases of appendicitis in America. In the United States, there are between 1 and 2 cases of appendicitis per 10,000 children each year between birth and 4 years. In the United States, there are now more than 25 cases of appendicitis per 10,000 children under the age of 10 each year. According to statistics, there are 1.1 cases per 1000 people per year in America.

According to Stefanus Satrio (2009), appendicitis that is quite common in Indonesia is a condition that develops after dyspepsia, gastritis, duodenitis, and other conditions of the digestive system. In Indonesia, appendicitis is currently the most widely used support for surgery every year. The results of Rs. gatot Soebroto, Jakarta, in 2006 due to frequent serts due to expensive and unhealthy food (Ministry of Health of the Republic of Indonesia, 2007). According to Sutanto, in 2004 Cit Novarizki 2009, after the surgery was carried out, the patient experienced something unpleasant due to very intense pain.

Non-pharmacological treatment methods generally have little risk. Although it is not intended as a substitute for treatment, it may be necessary to shorten the duration of

pain that lasts only a few days or hours (Smeltzer and Bare, 2002). Among non-pharmacological methods of managing pain, such as TENS (Transcutaneous Electric Nerve Stimulation), biofeedback, placebo, and distraction, relaxation techniques are the only ones. Using a communication technique, pain management is an external force that weakens a person's internal response to pain. According to Brunner & Suddart, 2001 mentioned that several studies have shown that regulating the nervous system with a combination of guided imagination, meditation, and diaphragmatic breathing exercises is effective in reducing pain after surgery (Brunner & Suddart, 2001).

When performing appendectomy surgery, patients usually feel pain at the beginning of the procedure, which will decrease over time and end after treatment and observation. The Numerical Rating Scale (NRS) is often used to measure the level of pain. Pain is expressed as if given on a scale of one to ten. Nyeri will be located in the operational area and will continue to operate for several days (Bararah & Jauhar, 2013).

According to the findings of research conducted by Roykulcharoen (2014), the advantage of learning relaxation techniques is that they are easier to apply than other techniques and have no noticeable side effects.

The purpose of this article is to provide some simple but effective solutions in appendicitis patients to reduce the intensity of pain with deep breathing relaxation.

METHOD

This literature study is carried out by compiling and analyzing articles related to the questions and research objectives. The current study uses journal-based literature summaries, specifically articles that have

been published between 2013 and 2023 that are the conclusions of previous studies or scientific works. This research is a narrative-based research with the topic of the influence of breathing relaxation techniques in reducing pain in post-op appendicitis patients. The research method was conducted using several electronic databases, such as Google Scholar and search for the terms Deep breath relaxation, Appendectomy, and Pain. The remaining 42 research articles were reviewed, and 20 articles were prioritized because they had good relevance to the topic or issue raised by the research. Then, the author narrowed

the list down to 8 priority articles that were used as articles for analysis

RESULTS

In this chapter, the results of journal reviews and discussions of case studies in the form of literature that I obtained from six journals related to soursop leaf decoction therapy to reduce blood glucose levels in patients with diabetes mellitus will be described.

Based on the results of the literature review obtained from 6 journals, it can be seen in table 1.1

Table 1.1 Database Results

Yes	Author	Year	Volume	Title	Method	Results	Link
1.	Wahyu Widodo , Neli Qoniah	2020	Vol. 1, No. 1	Applicatio n of Deep Breathing Relaxation Technique s to Reduce Pain Intensity in Appendicit is Patients at Wates Hospital	D: the design of this research is descriptive, in the form of a case study Q: two clients with appendicitis V: The independent variable in this study is deep breathing relaxation, while the dependent variable is post-op pain I: the research instrument used in this study is SOP (Standard Operating Procedure) for the provision of deep breathing relaxation techniques A: The data analysis in this study is carried out through 3 stages, namely Observation, Post test measurement results and time.	The results of the study on pre-operative before and after deep breathing relaxation. In Mr. S before the nursing action was carried out, the pain scale felt was 4 and after being given breath relaxation in pain reduced to a scale of 3. Meanwhile, in Mr. W before the breath relaxation action in the pain that was felt was 3 and after the nursing action was carried out, the pain was reduced to a scale of 2. In the post- surgery on Mr. S before breath relaxation is carried out in the scale of pain felt, which is 6 with a feeling like being stung and time lost or arisen. After breath relaxation is carried out, the pain scale is felt, which is 3 and the time is lost or arises. Meanwhile, in Mr. W before the act of breath relaxation was carried out, the pain scale felt 5 and time was lost or arose. After breath	Google scholar https://doi.org/10.53510/njs.v1i1.17

					relaxation is carried out in the scale of pain felt, which is to be 2 still felt and time is lost or arises	
2.	Fauziah Botutih, Dwi Esti Handayani, Aswan	2022 Vol.4 No. 2	Effectiveness of the Application of Deep Breathing Relaxation Techniques to Pain Intensity in <i>Post Op Appendicitis Patients</i>	D : The design of this study is Quasi Experimental with a research design of two group comparison pretest-posttest design S : two clients who have appendicitis. V: The independent variable in this study was the application of deep breathing relaxation, while the dependent variable was post-op pain intensity I: the research instrument used in this study is SOP (Standard Operating Procedure) for the provision of deep breathing relaxation techniques A: The data analysis in this study is carried out through 3 stages, namely Observation, Post test measurement results and time.	The results of the study showed that patients experienced a decrease in pain intensity after being given interventions, both deep breathing relaxation. In this study, the researcher used the duration of 15 minutes of intervention, at 15 The two patients said they felt better and the pain disappeared. The decrease in pain in each patient is at different durations and levels of pain. Based on the t-value of the breath relaxation calculation in which is 16.672 and the value of $p = 0.000$. The calculated t-value of each intervention $>$ the table $= 1.761$, as well as the value of $p <$ value $\alpha = 0.05$, which means that there is significant differences between Postoperative pain intensity of appendicitis before and after the intervention.	Google Scholar https://doi.org/10.4425/garuda.v4i2.262
3.	Pipin Yunus	2013 -	The Effect of Deep Breathing Relaxation Techniques on Reducing Pain Intensity in Postoperative Patients of Apediktto my on the First Day in the	D : The research design used is a quasi-experimental descriptive research with one group pretest-posttest, test without a comparison group (control). S: is all patients after the first day of appendectomy surgery with a total of 15 patients. V: The independent variable in this study was a decrease in	Based on the results of the data analysis test using the statistical t paired test with the help of a computer, where the $\alpha \leq$ value is 0.05, the significance value $p = 0.003$ is obtained. Because the p value was $<$ α ($0.003 < 0.05$), H_0 was rejected. This shows that the administration of breathing relaxation techniques has an effect on reducing pain levels	Google Scholar http://dx.doi.org/10.31314/zijk.v2i1.1135

Operating Room of BLUD Hospital Dr.M.M Dundo Limboto Hospital, Gorontalo Regency in 2013

intensity in postoperative appendectomy patients on the first day before being given deep breath relaxation technique, while the dependent variable was a decrease in pain response in postoperative patients on the first day after being given deep breathing relaxation technique.

I: the research instrument used in this study is SOP (Standard Operating Procedure) for the provision of deep breathing relaxation techniques

A: The analysis is univariate using frequency distribution, the analysis of the relationship between bivariate variables for statistical analysis uses the chi-square test.

4.	Andi Akifa Sudirman, Fadli Syamsuddin, Syahraihan S. Kasim	2023	Vol. 1 No. 2	The Effectiveness of Deep Breathing Relaxation Techniques on Reducing the Pain Scale in Appendicitis Patients at the IRD of Otanaha Hospital, Gorontalo City	D: The design of this study is an experimental pre-post test design approach. S : A total of 10 respondents V : The independent variable in this study is the deep breathing relaxation technique, while the dependent variable is the reduction of the pain scale of appendicitis patients. I: the research instrument used in this study is the SOP (Standard Operating Procedure) for the provision of deep breathing relaxation techniques.	The results of this study were after breathing relaxation techniques were carried out in the majority of pain scales. Appendicitis patients are included in the moderate category, which is 7 patients (70.0%) and the mild category of 3 people (30.0%). The results of statistical calculation using a paired sample t test, obtained a significance value of $0.000 < 0.05$. So it can be concluded that the breathing relaxation technique is effective in reducing the decrease in the Pain Scale in Appendicitis Patients at the IRD of Otanaha Hospital, Gorontalo	Google Scholar https://doi.org/10.55606/detect.or.v1i2.1368
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					A : The data analysis in this study uses univariate and bivariate.	City. Therefore, nurses are advised to be more optimal in teaching deep breathing relaxation techniques to reduce the pain experienced by patients.	
5.	Henni Febriyati, Weti, Wulan Anggraini, Marifje Rombe, Yesi Hidayanti	2023	Vol. 11 No. 01	The Effect of Deep Breathing Relaxation Techniques on Reducing Pain Intensity in Appendicitis Surgery Post Patients at Dr.N. Yunus Bengkulu Hospital	D: The design of this study is Pre-experimental using one group pre and post test Q: 15 people V: Independent variable is the effect of deep breathing relaxation technique, while dependent variable is pain intensity in postoperative appendicitis patients I: instrument in the form of standard operating procedure (SOP) guidelines A: univariate and bivariate.	The results of the study showed that out of 15 people, there was 1 person (6.6%) who experienced mild pain, 9 people (60%) who experienced moderate pain and 5 people (33.4%) who experienced severe pain. The average pain level before the breath relaxation technique was 5.78 with a standard deviation of 1.246. and there were 9 people (60%) who experienced mild pain, 6 people (40.0%) who experienced moderate pain and 0 people (0%) who experienced severe pain. The average pain level after being given the breathing relaxation technique was 3.20 with a standard deviation of 1.014. and obtained the results of the statistical test of the t-test, a p value = 0.000 was obtained, so it can be concluded that there is an influence of deep breathing relaxation techniques on the reduction of pain in postoperative appendicitis patients at Dr. M. Yunus Bengkulu Hospital.	Google Scholar https://doi.org/10.36085/jkmb.v11i1.4914
6.	Parmasih, Widya Sari, Abdurrahman asyid,	2021	Vol. 1 No. 2	Deep Breathing Relaxation Techniques for Pain Reduction in Children	D: using a descriptive method with a nursing process approach and Evidence Based Practice	The results of this study showed that after the breath relaxation technique was carried out 2 times a day for 20-30 minutes, which was done one hour before	Google Scholar https://jca.esaunggul.ac.id/index.php/jhe

	Ita Ari Astuti			Post Appendectomy Surgery in the Alamanda Room of Parakan Hospital	Q: in 3 children postoperative appendicitis V: variable dependent is a technique for deep breathing relaxation and variable dependent pain reduction in children after appendectomy surgery. I: instrument in the form of standard operating procedure (SOP) guidelines A: using interviews, observations and physical examinations.	the administration of analgesics, for 3 consecutive days, from the three children after appendectomy surgery there was a decrease in the pain scale. Children one from pain scale 4 drop to pain scale 2, Children 2 and 3 from pain scale 5 drop to pain scale 3. And it can be concluded that deep breathing relaxation techniques can be applied to other postoperative patients, which serves to reduce pain.	a/article/view/138
7.	Arif Hidayat, Eka Diah, Kartini Nugrum, Ike Prafitas Sari	2023	Vol. 15 No. 1	Effectiveness of Deep Breathing Relaxation Techniques and Finger Hand Relaxation Techniques on Reducing Pain in Postoperative Appendicitis Patients at Mojokerto Hospital	D: quasi experiment with pre test and post test one group design S: 24 respondents V: the independent variable is the deep breathing relaxation technique and the dependent variable is the reduction of pain in postoperative appendicitis patients I: instrument in the form of standard operating procedure (SOP) guidelines A: Observation before and after the experiment.	Based on the results of the data analysis obtained from the study, it can be concluded that there was a decrease in pain before (pre) and after (post) in the deep breathing intervention group in postoperative appendicitis patients in the Hayam Wuruk Hospital room. Sidowaras Bangsa. There was a decrease in pain before (pre) and after (post) in the finger grip intervention group in postoperative appendicitis patients in the Hayam Wuruk room of Sidowaras Bangsa Hospital.	Google Scholar http://ejournal.stikesmahit.ac.id/index.php/MM/article/view/904
8.	Mayasanti Dewi Amir, Poppi Nuraeni	2018	-	The Effect of Deep Breathing Relaxation Techniques on Pain Intensity in Postoperative Patients of Appendectomy Room, Nyi Ageng	D : Pelitian used in This research is an experiment research. S : The sample in this study is 17 people. V: The independent variable in this study is the technique of breath realization, while the variable is the intensity of pain in post-op patients	In this study, the results were obtained that there was an effect of deep breathing relaxation techniques on pain intensity in Postoperative Appendectomy patients in the Nyi Ageng Serang Room of Sekarwangi Hospital with a p-value of 0.000, then < 0.05	Google Scholar http://eprints.polttekkesjogja.ac.id/1983/

Serang
Sekarwarg
i Hospital

I: The instrument in which means that HO is
this study is the rejected.
Standard Operating
Procedure (SOP)
A : Data analysis using
univariate and
bivariate analysis

DISCUSSION

This study is focused on the results of research from eight (8) articles that found that the effect of deep breathing relaxation techniques on pain intensity in postoperative appendectomy patients.

Based on the results of data collection conducted by previous researchers, it was stated that the intensity of pain in each postoperative appendectomy respondent every healing action, including appendicitis action, would worsen the condition of the surrounding tissues (wounds).

The presence of this wound will cause pain, which is caused by tissue lesions that cause prostaglandins and leukotriens to stimulate the arrangement of nerve centers, as well as plasma extravasation and bradykinin cause edema and stimulate the arrangement of nerve centers, which will then be passed on. into the spinal cord to induce pain impulses. Pain will give rise to various physical and psychological problems. Based on Wahyu Widodo's research, Neli Qoniah in 2020 stated that the act of breathing relaxation in can affect the intensity of pain in post-op patients with Appendicitis. With results that stated that before breathing relaxation measures were carried out in pain scales 6 and 5, after the action was carried out the pain scale was 3 and 2. The results of the study show that there is a decrease in the moderate pain scale to a mild pain scale.

Meanwhile, based on research by Andi Akifa Sudirman et al. in 2023, it was stated that pain was reduced when the deep breath relaxation intervention was given and significant results were obtained after this

intervention which obtained a result of $0.000 < 0.05$.

Which states that deep breath relaxation is effective in lowering the pain scale in post-op patients with Appendicitis. Based on research conducted by Pipin Yunu in 2013, it was stated that there was an effect of the administration of deep breathing relaxation techniques on the reduction of pain scale in post-op appendicitis patients with the results of using the T dependent test, it was reported that the mean difference between the before and after measurements was 0.60 with a standard deviation of 0.632. The P value obtained is 0.003 because $p < 0.05$. Meanwhile, based on Henni Febriawati's research in 2023, the results of her research were 5.87 with a standard deviation of 1,246. The average level of pain after being given deep breathing relaxation technique in postoperative appendicitis patients was 3.20 with a standard deviation of 1,014. The results of the statistical test obtained a p value = 0.000, so there was an effect of deep breathing relaxation techniques on reducing pain in postoperative Appendicitis patients.

CONCLUSION

In conclusion there are 8 (eight) articles that have relevance to the implementation of the Effect of Deep Breath Relaxation Techniques on Pain Intensity in Postoperative Appendectomy Patients. There is an effect of deep breath relaxation techniques on pain intensity in post-op appendectomy patients

REFERENCES

- Amir, M. D., & Nuraeni, P. (2018). Pengaruh Teknik Relaksasi Nafas Dalam Terhadap Intensitas Nyeri Pada Pasien Post Operatif Appendectomy di Ruang Nyi Ageng Serang RSUD Sekarwangi. *Lentera: Jurnal Ilmiah Kesehatan dan Keperawatan*, 3(1), 107-118.
- Widodo, W., & Qoniah, N. (2020). Penerapan Teknik Relaksasi Nafas Dalam Menurunkan Intensitas Nyeri Pada Pasien Appendicitis Di RSUD Wates. *Nursing Science Journal (NSJ)*, 1(1), 25-28.
- Sudirman, A. A., Syamsuddin, F., & Kasim, S. S. (2023). Efektifitas Teknik Relaksasi Napas Dalam Terhadap Penurunan Skala Nyeri Pada Pasien Appendicitis Di Ird RSUD Otonaha Kota Gorontalo. *Detector: Jurnal Inovasi Riset Ilmu Kesehatan*, 1(2), 137-147.
- Botutihe, F., & Handayani, D. E. (2022). Efektifitas Penerapan Teknik Relaksasi Napas Dalam Terhadap Intensitas Nyeri Pada Pasien Post Op Appendicitis. *Garuda Pelamonia Jurnal Keperawatan*, 4(2), 69-74.
- Febriawati, H., Weti, W., Angraini, W., Rombe, M., & Hidayanti, Y. (2023). Pengaruh Pemberian Teknik Relaksasi Napas Dalam Terhadap Penurunan Intensitas Nyeri Pada Pasien Post Operasi Appendicitis Di RSUD Dr. M. Yunus Bengkulu. *Jurnal Keperawatan Muhammadiyah Bengkulu*, 11(1).
- Yunus, P. (2021). Pengaruh Pemberian Teknik Relaksasi Nafas Dalam Terhadap Penurunan Intensitas Nyeri Pada Pasien Post Operasi Appendektomi Hari Pertama Di Ruang Bedah Blud Rsu Dr. Mm Dunda Limboto Kabupaten Gorontalo Tahun 2013. *Zaitun (Jurnal Ilmu Kesehatan)*, 2(1).
- Parmasih, P., Sari, W., Abdurrasyid, A., & Astuti, I. A. (2021). Teknik Relaksasi Nafas Dalam Terhadap Penurunan Nyeri Pada Anak Post Operasi Apendektomi Di Ruang Alamanda RSUD Tarakan. *JCA of Health Science*, 1(02).
- Hidayat, A., Sari, I. P., & Kartiningrum, E. D. (2023). Efektifitas Teknik Relaksasi Nafas Dalam Dan Teknik Relaksasi Genggam Jari Terhadap Penurunan Nyeri Pada Pasien Post Operasi Apendiktis Di Rumah Sakit Mojokerto. *Medica Majapahit (Jurnal Ilmiah Kesehatan Sekolah Tinggi Ilmu Kesehatan Majapahit)*, 15(1)