

THE EFFECT OF BENSON RELAXATION ON REDUCING OVARIAN CYSTOMA PAIN SCALE

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ABSTRAK

Latar Belakang: Kista ovarium merupakan salah satu kondisi ginekologi yang dapat menimbulkan nyeri dengan intensitas yang bervariasi. Nyeri yang dialami pasien dapat memengaruhi kondisi fisik, psikologis, aktivitas sehari-hari, serta kualitas hidup pasien. Penatalaksanaan nyeri tidak hanya dilakukan secara farmakologis, tetapi dapat dikombinasikan dengan terapi nonfarmakologis. Salah satu teknik relaksasi yang dapat digunakan adalah relaksasi Benson. Teknik ini menggabungkan relaksasi pernapasan dengan pemusatan perhatian sehingga dapat membantu menurunkan ketegangan dan persepsi nyeri.

Tujuan: Mengetahui pengaruh relaksasi Benson terhadap penurunan skala nyeri pada pasien kista ovarium di RSUD Dr. Saiful Anwar Provinsi Jawa Timur.

Metode: Penelitian ini menggunakan desain pre-experimental dengan pendekatan one-group pretest-posttest. Sampel penelitian berjumlah 30 responden yang dipilih menggunakan teknik purposive sampling. Instrumen penelitian menggunakan Numeric Rating Scale (NRS) dengan rentang skala nyeri 0–10. Intervensi relaksasi Benson diberikan selama 15 menit. Pengukuran skala nyeri dilakukan sebelum dan setelah pemberian intervensi. Analisis data dilakukan secara univariat dan bivariat menggunakan Paired Sample t-Test dengan bantuan program SPSS.

Hasil: Sebagian besar responden berusia 21–34 tahun, yaitu sebanyak 20 responden (66,7%), dan sebagian besar bekerja sebagai ibu rumah tangga, yaitu sebanyak 16 responden (53,3%). Rata-rata skala nyeri sebelum diberikan relaksasi Benson adalah 7,07, sedangkan setelah diberikan intervensi menurun menjadi 4,07. Hasil uji t berpasangan menunjukkan nilai $p < 0,001$, sehingga terdapat perbedaan yang signifikan antara skala nyeri sebelum dan sesudah diberikan relaksasi Benson.

Kesimpulan: Terdapat penurunan skala nyeri yang signifikan setelah pemberian relaksasi Benson pada pasien kista ovarium di RSUD Dr. Saiful Anwar Provinsi Jawa Timur. Relaksasi Benson dapat dipertimbangkan sebagai salah satu terapi nonfarmakologis pendamping dalam membantu mengurangi nyeri pada pasien kista ovarium.

Saran: Tenaga kesehatan, khususnya perawat dan bidan, diharapkan dapat mempertimbangkan penerapan relaksasi Benson sebagai salah satu intervensi nonfarmakologis pendamping dalam manajemen nyeri pada pasien kista ovarium. Pasien juga diharapkan dapat mempraktikkan teknik relaksasi Benson secara mandiri setelah mendapatkan edukasi dan demonstrasi dari tenaga kesehatan. Bagi peneliti selanjutnya, disarankan menggunakan jumlah sampel yang lebih besar, kelompok kontrol, serta waktu dan frekuensi intervensi yang lebih terstruktur agar efektivitas relaksasi Benson terhadap nyeri dapat diketahui dengan lebih kuat.

Kata Kunci: Relaksasi Benson, Nyeri, Kista Ovarium, Terapi Nonfarmakologis

ABSTRACT

Background: Ovarian cysts are one of the gynecological conditions that may cause pain with varying levels of intensity. Pain experienced by patients can affect physical and psychological well-being, daily activities, and quality of life. Pain management is not limited to pharmacological treatment but can also be combined with non-pharmacological interventions. One relaxation technique that can be used is Benson relaxation. This technique combines controlled breathing with focused attention and may help reduce tension and the perception of pain.

Objective: To determine the effect of Benson relaxation on reducing pain intensity among patients with ovarian cysts at Dr. Saiful Anwar Regional General Hospital, East Java Province.

Methods: This study used a pre-experimental design with a one-group pretest-posttest approach. A total of 30 respondents were selected using purposive sampling. The research instrument was the Numeric Rating Scale (NRS), ranging from 0 to 10. Benson relaxation was administered for 15 minutes. Pain intensity was measured before and after the intervention. Data were analyzed using univariate and bivariate analyses with the Paired Sample t-Test using SPSS.

Results: Most respondents were aged 21–34 years, totaling 20 respondents (66.7%), and the majority were housewives, totaling 16 respondents (53.3%). The mean pain score before Benson relaxation was 7.07, while the mean pain score after the intervention decreased to 4.07. The results of the paired-samples t-test showed $p < 0.001$, indicating a statistically significant difference in pain intensity before and after the Benson relaxation intervention.

Conclusion: Pain intensity decreased significantly after Benson relaxation among patients with ovarian cysts at Dr. Saiful Anwar Regional General Hospital, East Java Province. Benson relaxation may be considered as a complementary non-pharmacological intervention to support pain management in patients with ovarian cysts.

Suggestion: Healthcare professionals, particularly nurses and midwives, are encouraged to consider Benson relaxation as a complementary non-pharmacological intervention in pain management for patients with ovarian cysts. Patients may also be encouraged to practice Benson relaxation independently after receiving appropriate education and demonstration from healthcare professionals. Future researchers are recommended to use a larger sample size, a control group, and a more structured intervention schedule to provide stronger evidence regarding the effectiveness of Benson relaxation in reducing pain intensity.

Keywords: Benson Relaxation, Pain, Ovarian Cyst, Non-pharmacological Therapy

INTRODUCTION

Ovarian cysts are fluid-filled sacs or masses that develop in or on the ovary and are commonly found among women of reproductive age. Most ovarian cysts are benign and may be asymptomatic; however, some cysts can become enlarged and cause clinical manifestations such as lower abdominal or pelvic pain, abdominal fullness, menstrual disturbances, and discomfort during physical activity. In some cases, ovarian cysts may lead to complications such as ovarian torsion or rupture, which require immediate medical attention. Therefore, ovarian cysts remain an important gynecological health problem that requires appropriate assessment and management.

The occurrence of ovarian cysts is closely associated with the reproductive period because hormonal activity and ovulation may contribute to the development of functional ovarian cysts. Although many ovarian cysts resolve spontaneously, patients with persistent, large, or symptomatic cysts may require medical treatment or surgical management. The clinical problem becomes more important when the cyst produces persistent pain that interferes with the patient's daily activities, sleep, mobility, and psychological well-being.

One of the most common complaints among patients with symptomatic ovarian cysts is pain in the lower abdomen or pelvic area. Pain may occur because of stretching of ovarian tissue, pressure exerted by the mass on surrounding organs, inflammation, rupture, or complications such as torsion. The intensity of pain varies between patients and may be influenced by the size and location of the cyst, the presence of complications, individual pain sensitivity, and psychological factors. Pain that is not appropriately managed can interfere with physical activity and reduce quality of life (Rahmawati, 2022).

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. In patients with ovarian cysts, pain may be acute or persistent and can affect sleep, appetite, mobility, concentration, and emotional well-being. Persistent pain may also increase anxiety and stress, while anxiety and stress can subsequently increase the patient's perception of pain. This creates a cycle between physical discomfort and psychological distress that may make pain management more difficult (Pratiwi, 2023).

The phenomenon of ovarian cysts is important because patients do not only face the presence of an ovarian mass but may also experience symptoms that interfere with their daily lives. Some patients seek health services after experiencing persistent lower abdominal pain, menstrual disturbances, abdominal enlargement, or discomfort during activities. Patients who experience severe pain may require analgesic therapy, closer monitoring, and in certain cases surgical management. This condition indicates that pain is one of the important clinical problems that needs to be addressed in patients with symptomatic ovarian cysts.

In addition to physical complaints, ovarian cysts can create psychological problems for patients. The diagnosis of an ovarian mass may cause fear regarding the possibility of malignancy, concerns about fertility, anxiety regarding surgery, and uncertainty about future reproductive health. These psychological responses may influence how patients perceive and respond to pain. Therefore, management of ovarian cyst-related pain should consider both physical and psychological aspects.

Pain management in patients with ovarian cysts can be achieved through pharmacological and non-pharmacological approaches. Pharmacological management commonly involves analgesic medication according to the patient's clinical condition and medical indications. Although pharmacological therapy is important, complementary non-pharmacological approaches can be used to support pain management and improve patient comfort. One such approach is relaxation therapy.

One non-pharmacological method that can be used to help manage pain is the Benson relaxation technique. Benson relaxation is a relaxation technique that combines slow, controlled breathing with focused attention or repetition of a word or phrase to create a state of physical and mental relaxation. The technique was developed by Herbert Benson and has been used as a complementary approach for managing stress, anxiety, and pain (Handayani, 2023).

Benson relaxation is believed to promote relaxation by reducing physiological arousal associated with stress. Controlled breathing and focused attention may help reduce muscle tension and psychological distress, thereby influencing the patient's perception of pain. Relaxation may also support the body's natural pain-control mechanisms. Therefore, Benson relaxation can be considered a complementary technique in pain management rather than a replacement for medical or pharmacological treatment (Wulandari, 2022).

The Benson relaxation technique has several practical advantages. It does not require special equipment, is relatively simple to teach, requires a relatively short period of time, and can potentially be practiced independently by patients after receiving appropriate instruction. The technique involves a comfortable position, slow breathing, relaxation of the body, and concentration on a selected word or phrase. According to Fitriani and Lestari (2024), relaxation techniques may help reduce pain and anxiety in patients experiencing chronic health problems.

Previous studies have reported that relaxation techniques can contribute to reductions in pain intensity. Research conducted by Handayani (2023) reported a significant reduction in pain scores following Benson relaxation, with a p -value <0.05 . These findings suggest that Benson relaxation may be useful as a complementary intervention in pain management. However, evidence specifically examining Benson relaxation among patients with ovarian cysts remains limited compared with research involving other types of pain.

This research gap is important because ovarian cyst patients may experience pain associated with the ovarian mass, while treatment in hospital settings is often focused primarily on pharmacological management. Although non-pharmacological interventions such as relaxation techniques are relatively simple and inexpensive, their application specifically among ovarian cyst patients needs to be further evaluated. Therefore, research examining the effect of Benson relaxation on pain intensity in ovarian cyst patients is needed.

In addition to reducing pain, Benson relaxation may provide psychological benefits. Patients who are able to achieve a more relaxed state may experience reduced tension, fear, and anxiety. Psychological relaxation is important because emotional factors can influence pain perception. A patient who feels anxious or fearful may perceive pain more intensely than a patient who is calmer and better able to cope with the situation (Kurniawati, 2022).

Pain among ovarian cyst patients can therefore be understood as a multidimensional problem. The physical presence of the ovarian mass may produce pain, while anxiety, fear, lack of sleep, and uncertainty regarding treatment may further influence the patient's experience of pain. An intervention that promotes both physical and psychological relaxation may therefore provide additional benefits as part of comprehensive pain management.

At the hospital level, ovarian cyst patients who experience moderate to severe pain represent an important nursing and clinical care problem. Initial observations at Dr. Saiful Anwar Regional General Hospital, East Java Province, indicate that patients with ovarian cysts may present with lower abdominal or pelvic pain that interferes with mobility, sleep, comfort, and daily activities. Pain management is primarily provided through pharmacological interventions, while complementary relaxation techniques are not yet routinely applied to all patients. This condition creates an opportunity to examine a simple non-pharmacological intervention that can be integrated into existing pain management.

Dr. Saiful Anwar Regional General Hospital is a referral hospital in East Java that provides specialist services, including services for patients with gynecological conditions. Patients with ovarian cysts who require

further examination, medical treatment, or surgical management may receive care at the hospital. The presence of patients presenting with pain related to ovarian cysts makes pain management an important aspect of patient care.

Healthcare professionals have an important role in providing comprehensive pain management. Nurses and midwives can support patients not only through pharmacological interventions prescribed by physicians but also through appropriate non-pharmacological interventions, education, therapeutic communication, and comfort measures. Benson relaxation may be one of the complementary interventions that can be taught and implemented according to the patient's condition.

Benson relaxation may therefore provide a simple, inexpensive, and relatively easy-to-implement intervention for patients experiencing pain associated with ovarian cysts. Patients can be taught the technique by healthcare professionals and may subsequently practice it independently when experiencing discomfort, provided that the technique is used as a complementary intervention and does not replace necessary medical treatment.

Based on the phenomenon of ovarian cysts, the clinical problem of pain, the psychological impact associated with pain, and the limited application of Benson relaxation specifically among ovarian cyst patients, further research is needed to determine whether Benson relaxation is associated with a reduction in pain intensity. Therefore, the researcher is interested in conducting a study entitled "The Effect of Benson Relaxation on Reducing Ovarian Cystoma Pain Scale at Dr. Saiful Anwar Regional Hospital, East Java Provincial Government." This study is expected to provide scientific evidence regarding the use of Benson relaxation as a complementary non-pharmacological intervention for pain management among patients with ovarian cysts.

RESEARCH METHODS

This study used a quantitative pre-experimental design with a one-group pretest-posttest approach. The study was conducted at Dr. Saiful Anwar Regional General Hospital, East Java Province, under the 2026 approved research protocol. All participant recruitment and data collection were conducted only after ethical approval had been granted on 6 June 2026. The population consisted of ovarian cyst patients who experienced pain and received treatment at the hospital. A total of 30 respondents were selected using purposive sampling based on predetermined inclusion and exclusion criteria.

Inclusion Criteria

- Patients diagnosed with ovarian cysts/ovarian cystoma based on medical diagnosis.
- Patients who experienced pain with an NRS score of 4–8 at the time of the initial assessment.
- Patients who were conscious, cooperative, and able to communicate effectively.
- Patients aged ≥ 18 years.
- Patients who were willing to participate in the study and signed an informed consent form.
- Patients who were able to follow the Benson relaxation procedure for approximately 15 minutes.
- Patients who had not received another non-pharmacological relaxation intervention immediately before the pretest measurement.

Exclusion Criteria

- Patients who experienced decreased consciousness, confusion, or communication difficulties that prevented them from following the intervention.
- Patients with severe clinical conditions requiring immediate emergency treatment or emergency surgery.
- Patients who experienced severe complications related to ovarian cysts, such as suspected ovarian torsion or cyst rupture with hemodynamic instability.
- Patients who were unable to sit or lie comfortably and safely during the Benson relaxation intervention.
- Patients who declined to continue participating in the study.
- Patients who experienced a condition during the intervention that required immediate medical management.

Intervention Procedure

Before the intervention, the patient's pain intensity was measured using the Numeric Rating Scale (NRS) as the pretest. The researcher then provided an explanation of the Benson relaxation technique and instructed the respondent to assume a comfortable position. The respondent was guided to regulate breathing slowly while focusing attention on a selected word or phrase according to the respondent's preference. Benson relaxation was performed for 15 minutes under the supervision of the researcher.

After completion of the 15-minute Benson relaxation intervention, the patient's pain intensity was measured again using the same NRS as the posttest. The pretest and posttest measurements were performed using the same instrument and under conditions as similar as possible.

Data Analysis

Data were analyzed using SPSS. Univariate analysis was used to describe respondent characteristics and pain intensity before and after the intervention. Data normality was assessed using the Shapiro-Wilk test, which is generally appropriate for a sample of 30 respondents. If the difference scores between pretest and posttest were normally distributed, a paired-samples t-test was used to determine the difference in pain intensity before and after Benson relaxation. The significance level was set at $\alpha = 0.05$.

Ethics and Participant Protection

Ethical approval was obtained from the Health Research Ethics Committee of the Institute of Science and Health Technology, Dr. Soepraoen Hospital, Malang (Komite Etik Penelitian Kesehatan ITSK RS dr. Soepraoen), No. KEPK-EC/100/VI/2026, dated 6 June 2026 and valid until 5 June 2027. Participant recruitment and data collection commenced only after ethical approval had been granted. Written informed consent was obtained from all participants before participation in the study.

RESEARCH RESULTS

Respondent Characteristics

Table 1. Distribution of Respondent Characteristics Based on Age and Occupation

Characteristic	n	%
Age: 21–34 years	20	66.7
Age: >35 years	10	33.3
Occupation: Housewife	16	53.3
Occupation: Employed	14	46.7

Most respondents were aged 21–34 years (20/30; 66.7%), and 16 respondents (53.3%) were housewives.

Pain Intensity Before and After Benson Relaxation

Table 2. Distribution of Observed NRS Scores Before and After Benson Relaxation

Measurement / observed score	N	%
Pretest: NRS 6–7	20	66.7
Pretest: NRS 8	10	33.3
Posttest: NRS 3–4	20	66.7
Posttest: NRS 5	10	33.3

Before the intervention, 20 respondents (66.7%) had NRS scores of 6–7 and 10 respondents (33.3%) had an NRS score of 8. After the intervention, 20 respondents (66.7%) had NRS scores of 3–4 and 10 respondents (33.3%) had an NRS score of 5, indicating a shift toward lower pain scores.

Paired Comparison

Table 3. Paired-Samples t-Test of Pain Scores Before and After Benson Relaxation

Measurement	n	Mean (SD) / difference	Statistical test
Pretest	30	7.07 (0.69)	
Posttest	30	4.07 (0.69)	
Mean reduction	30	3.00	$t = 23.811$; $df = 29$; $p < 0.001$

The mean pain score decreased from 7.07 before Benson relaxation to 4.07 after the intervention, with a mean reduction of 3.00 points. The paired-samples t-test showed a statistically significant pretest–posttest difference ($t = 23.811$, $df = 29$, $p < 0.001$).

DISCUSSION

Characteristics of Respondents Based on Age

The results showed that the largest proportion of respondents were aged 21–34 years, namely 20 respondents (66.7%), while 10 respondents (33.3%) were aged >35 years. The predominance of respondents aged 21–34 years indicates that most ovarian cystoma patients in this study were in the reproductive-age group.

Women of reproductive age experience active ovarian function, including regular follicular development and ovulation. These physiological processes are associated with the occurrence of several types of ovarian cysts, particularly functional cysts. However, age should not be interpreted as a direct cause of ovarian cystoma because the development of ovarian cysts is influenced by multiple factors, including hormonal factors, reproductive history, genetic factors, and the type of cyst (American College of Obstetricians and Gynecologists [ACOG], 2021).

The predominance of respondents in the reproductive-age group in this study is consistent with the clinical characteristics of ovarian cysts, which are commonly encountered among women who are still menstruating. According to the American College of Obstetricians and Gynecologists (ACOG, 2021), ovarian cysts are frequently identified in premenopausal women because ovarian activity continues throughout the reproductive period.

Age can also influence how patients perceive and communicate pain. Younger and middle-aged adults generally have adequate cognitive and communication abilities to identify and report pain using standardized instruments such as the Numeric Rating Scale (NRS). However, pain intensity is not determined by age alone. Individual pain perception can also be influenced by anxiety, previous pain experience, fatigue, psychological condition, and the severity of the underlying disease (Raja et al., 2020).

The findings of this study are also supported by the biopsychosocial concept of pain, which explains that pain is not merely a consequence of tissue injury but is influenced by biological, psychological, and social factors. Therefore, although most respondents were aged 21–34 years, the researchers consider that age was primarily a demographic characteristic and not the principal determinant of the pain reduction observed after the intervention.

Characteristics of Respondents Based on Occupation

Based on occupation, the largest proportion of respondents were housewives, namely 16 respondents (53.3%), while 14 respondents (46.7%) were employed. This finding indicates that more than half of the respondents had domestic responsibilities as their primary daily activities.

Occupation may indirectly influence pain perception through physical activity, fatigue, psychological stress, and daily responsibilities. Housewives may experience physical and psychological demands associated with household activities and family responsibilities. Conversely, employed women may experience occupational workload, time pressure, and work-related stress.

According to Raja et al. (2020), pain is a multidimensional experience influenced by biological, psychological, and social factors. Psychological stress can increase attention to painful sensations and contribute to greater subjective pain intensity. Therefore, the patient's daily environment and psychosocial condition should be considered when managing pain.

However, occupation itself cannot be considered a direct determinant of ovarian cystoma pain. The same occupation may produce different levels of stress and fatigue in different individuals. Therefore, occupational characteristics in this study are better understood as contextual factors rather than causal factors.

The researchers consider that the predominance of housewives provides an important consideration for healthcare professionals when providing pain-management education. Benson relaxation is relatively practical because it does not require special equipment and can be practiced independently after appropriate instruction.

Pain Intensity Before Benson Relaxation

The results showed that before Benson relaxation was administered, the largest proportion of respondents experienced NRS scores of 6–7 in 20 respondents (66.7%), while 10 respondents (33.3%) had an NRS score of 8. The mean pain score before the intervention was 7.07 ± 0.69 .

These findings indicate that pain was a substantial clinical problem among the respondents. An NRS score around 7 indicates relatively high pain intensity and may interfere with physical activity, sleep, emotional well-being, and the patient's ability to participate comfortably in daily activities.

Pain in patients with ovarian cystoma may occur because of stretching of ovarian tissue, pressure exerted by the cystic mass on surrounding structures, inflammation, cyst enlargement, rupture, or other complications.

The location of the pain may include the lower abdomen and pelvic region. The clinical presentation varies depending on the type, size, and characteristics of the ovarian cyst (American College of Obstetricians and Gynecologists [ACOG], 2021).

The International Association for the Study of Pain (IASP) emphasizes that pain is both a sensory and emotional experience. Consequently, two patients with similar clinical conditions may report different levels of pain because pain perception is influenced by individual psychological and contextual factors (Raja et al., 2020).

The results of this study are also consistent with the biopsychosocial model proposed in contemporary pain science. According to this model, pain intensity can be affected not only by tissue pathology but also by anxiety, fear, stress, attention, previous experience, and social circumstances (Raja et al., 2020).

The theoretical explanation is also consistent with the gate-control theory of pain, in which sensory input and psychological processes can influence the transmission and perception of pain. This provides a theoretical basis for using interventions that influence attention, relaxation, and emotional responses to pain.

Pain Intensity After Benson Relaxation

After receiving 15 minutes of Benson relaxation, the largest proportion of respondents experienced NRS scores of 3–4 in 20 respondents (66.7%), while 10 respondents (33.3%) had an NRS score of 5.

The mean pain score decreased from 7.07 ± 0.69 before intervention to 4.07 ± 0.69 after intervention, representing a mean reduction of 3.00 points.

The change in pain category demonstrates a clinically meaningful shift. Before the intervention, observed NRS scores were 6–8. After the intervention, observed NRS scores shifted to 3–5, demonstrating a clear reduction in reported pain intensity.

This finding is consistent with the concept of relaxation therapy, in which slow breathing and focused attention may reduce physiological arousal and psychological tension. Benson's relaxation response concept explains that relaxation practices can counteract physiological responses associated with stress and promote a calmer state (Benson & Klipper, 2022).

Relaxation interventions are also supported by broader evidence regarding non-pharmacological pain management. The American College of Physicians recommends non-pharmacological approaches as part of multimodal pain management in appropriate clinical situations (Choi et al., 2022). Although the present study specifically examined Benson relaxation in ovarian cystoma patients, the general principle supports combining behavioral and psychological approaches with conventional pain management.

The findings are also consistent with previous research demonstrating that relaxation-based interventions can reduce pain intensity. Complementary approaches may influence pain through relaxation, distraction, reduced muscle tension, and improved emotional regulation (Choi et al., 2022).

Effect of Benson Relaxation on Pain Intensity

The bivariate analysis using the paired-samples t-test demonstrated that the mean pain score decreased from 7.07 ± 0.69 to 4.07 ± 0.69 , with a mean difference of 3.00 points.

The statistical analysis produced a t-value of 23.811, $df = 29$, and $p < 0.001$. Because the p-value was less than $\alpha = 0.05$, H_0 was rejected and H_a was accepted. Therefore, there was a statistically significant difference between pain intensity before and after Benson relaxation.

Statistically, the result demonstrates a strong pretest-posttest difference. Substantively, the reduction in pain indicates that respondents reported substantially less pain after receiving the relaxation intervention.

The result is consistent with the principle that pain management should use a multimodal approach. Pharmacological therapy addresses physiological mechanisms of pain, whereas relaxation may address psychological and behavioral components that contribute to pain perception (Raja et al., 2020).

The findings are also supported by the systematic review by Abu Maloh et al. (2022), which found evidence that mindfulness- and relaxation-oriented approaches may provide benefits for pain and associated psychological symptoms in selected populations. Although the intervention and patient populations vary among studies, these findings support the broader role of mind-body interventions as complementary approaches.

Relationship of the Findings With Previous Research

The results of this study are consistent with previous studies regarding the benefits of relaxation techniques in pain management. Research on relaxation and mind-body interventions has demonstrated that these approaches can contribute to reductions in pain intensity and psychological distress in various patient populations (Kwekkeboom et al., 2022).

The current findings also support the work of Raja et al. (2020), which emphasizes that pain is a multidimensional experience involving sensory and emotional components. Because emotional responses can influence pain perception, interventions that promote relaxation may have an important complementary role.

Furthermore, Raja et al. (2020) emphasized that pain is influenced by biological pathology as well as psychological and social factors. This theory supports the use of interventions that address more than the physical source of pain.

The present study also corresponds with Benson's relaxation response theory. Benson and Klipper (2022) explain that relaxation can be achieved through a combination of controlled breathing and focused attention. This process can help the individual reach a state of reduced physiological arousal.

Thus, the findings of the present study strengthen the argument that relaxation interventions can be incorporated into comprehensive pain management. However, the researchers emphasize that the existing evidence should not be interpreted as demonstrating that relaxation can replace medical treatment for ovarian cystoma.

Theoretical Mechanism of Benson Relaxation in Reducing Pain

Benson relaxation may reduce pain through several interconnected mechanisms.

First, controlled breathing can help reduce physiological arousal. Slow breathing may encourage a calmer physiological state and reduce the physical manifestations of stress.

Second, focused attention may function as a form of cognitive distraction. When patients concentrate on breathing or a repeated word or phrase, their attention may become less focused on painful sensations.

Third, relaxation may contribute to reduced muscle tension. Psychological stress can increase muscular tension, which may aggravate discomfort. Relaxation may therefore help reduce this component of pain.

Fourth, the relaxation response may influence the individual's emotional response to pain. A patient who feels calmer may interpret the pain as less threatening and may develop better coping responses.

These mechanisms are consistent with contemporary pain theory, which recognizes that pain perception is influenced by cognitive, emotional, and contextual factors in addition to nociceptive input (Raja et al., 2020).

Clinical Implications of the Research

The results have implications for nursing and midwifery practice. Benson relaxation is relatively simple, inexpensive, does not require specialized equipment, and can be taught to patients after appropriate instruction.

The intervention can be integrated into a multimodal pain-management program. Healthcare professionals can provide a 15-minute guided session and assess pain using the NRS before and after the intervention. The results can then be documented as part of the patient's pain-management evaluation.

The World Health Organization emphasizes the importance of person-centered and integrated approaches to pain and symptom management. Non-pharmacological approaches can complement conventional medical management when appropriately selected for the patient's condition (World Health Organization [WHO], 2023).

The researchers therefore consider Benson relaxation to be feasible for implementation in clinical settings, particularly as a supportive intervention. However, patients with acute abdominal pain, sudden severe pain, suspected cyst rupture, torsion, or other clinical emergencies require immediate medical assessment rather than relying solely on relaxation techniques.

Limitations and Researcher's Interpretation

Although the results showed a statistically significant reduction in pain, several limitations should be considered. First, this study used a pre-experimental one-group pretest-posttest design and did not include a control group. Therefore, factors other than Benson relaxation may have contributed to the reduction in pain.

Second, pain was measured using the NRS, which is a subjective measure. Although the NRS is widely used for clinical pain assessment, responses may be influenced by individual perception and psychological state.

Third, factors such as analgesic use, duration and size of the ovarian cystoma, anxiety level, sleep quality, previous pain experience, and changes in clinical condition could influence pain intensity. If these factors were not controlled, they may act as confounding variables.

The researchers therefore interpret the findings as evidence of a significant difference in pain intensity before and after Benson relaxation, while acknowledging that a causal conclusion would require a stronger design, such as a randomized controlled trial.

CONCLUSION

Benson relaxation was associated with a significant reduction in pain intensity among 30 patients with ovarian cystoma at Dr. Saiful Anwar Regional General Hospital. The mean NRS score decreased from 7.07 to 4.07 after a 15-minute Benson relaxation session (mean reduction 3.00 points; $t = 23.811$; $df = 29$; $p < 0.001$). Because the study used a one-group pretest-posttest design without a control group, the findings support a significant pretest-posttest improvement but do not establish that Benson relaxation alone caused the entire reduction in pain.

SUGGESTION

Healthcare professionals may consider Benson relaxation as a complementary non-pharmacological intervention alongside standard medical and pharmacological pain management for clinically stable ovarian cystoma patients. Future studies should use larger samples and a control or comparison group and should record potential confounders such as analgesic use, cyst characteristics, anxiety, and baseline clinical condition.

DECLARATIONS

Ethics Approval and Informed Consent

Ethical approval was obtained from the Health Research Ethics Committee of the Institute of Science and Health Technology, Dr. Soepraoen Hospital, Malang (Komite Etik Penelitian Kesehatan ITSK RS dr. Soepraoen), No. KEPK-EC/100/VI/2026, dated 6 June 2026 and valid until 5 June 2027. Participant recruitment and data collection commenced only after ethical approval had been granted. Written informed consent was obtained from all participants before participation in the study.

Author Contributions

Ana Kristina contributed to conceptualization, methodology, data collection, data analysis, interpretation of the findings, and preparation of the original manuscript. Rosyidah Alfitri contributed to supervision, methodological review, interpretation of the findings, critical review, and revision of the manuscript. Both authors read and approved the final version of the manuscript.

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Conflict of Interest

The authors declare no conflict of interest related to this study.

Artificial Intelligence Declaration

Generative artificial intelligence (OpenAI ChatGPT) was used solely to support language editing, consistency checking, and manuscript formatting during the revision process. All AI-assisted outputs were reviewed and verified by the authors. The authors remain fully responsible for the accuracy, originality, integrity, and final content of the manuscript.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to applicable ethical, privacy, and confidentiality requirements.

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