

Five Finger Relaxation Techniques on Pain and Sleep Quality among Rheumatoid Arthritis Patients in Sukabumi City

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Abstract

Background: Rheumatism is a common disease among the elderly that can cause pain and interfere with quality sleep. The five-finger relaxation technique is a non-drug treatment for these symptoms. **Objective:** This study aims to determine the effect of the five-finger relaxation technique on pain and sleep quality in the elderly with rheumatism. **Method:** a quasi-experimental pre- and post-test with a non-equivalent control group were applied in this study. The samples were 30 elderly with rheumatism divided into control and intervention groups. **Result:** There were mean differences in the pre-test and post-test scores on pain ($p < .05$) and sleep quality ($p < .05$) between the experimental and the control group. **Conclusion:** Five-finger relaxation causes effects such as relaxation, inner peace, peace, and joy to reduce mental stress and tension, which ultimately causes pain relief and improves sleep quality for the elderly with rheumatism. There is an effect of five-finger relaxation techniques on pain and sleep quality in the elderly with rheumatism. **Recommendation:** It is expected that the relaxation of the five fingers will become a form of independent nursing intervention for a nurse in providing nursing care for rheumatic patients.

Keywords: Five Finger Relaxation Technique, Pain, Rheumatism, Sleep Quality

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INTRODUCTION

The elderly are individuals at the end of their lives (1). World Health Organization (WHO) reported that the elderly population in Southeast Asia was 8% or approximately 142 million people. In 2019, the number of older people in Indonesia would predict to increase by 25.9 million (9.7%) to 48.2 million (15.77%) by 2035 (2). The elderly have a high risk of developing various health issues, particularly degenerative diseases, such as hypertension, diabetes, cholesterol, heart disease, rheumatic diseases, sleep disorders, and balance disorders (3).

Rheumatism is one of the diseases experienced by the elderly. According to the WHO, 335 million people worldwide suffered from rheumatism in 2016. In 2004, the prevalence of rheumatism in Indonesia was 2 million, with a female-to-male patient ratio three times that of men. In 2013, the majority of rheumatism in Indonesia was 11.9% (4). Rheumatism is a chronic systemic inflammatory disease (SSID), a systemic inflammation that can affect numerous tissues and organs but primarily affects the synovial joints (5).

The primary symptom of rheumatism is joint pain, particularly when moving. It typically develops gradually. It initially feels stiff, followed by discomfort that decreases with rest. There are impediments to joint mobility, including morning stiffness, crepitus, joint enlargement, and alterations in gait. Then, joint enlargement and crepitus will occur (6).

Numerous variables influence the degree of pain felt by different patients. Typically, the patient knows where the pain is located. Pain can exacerbate the patient's condition; therefore, it is essential to treat it (7).

Rheumatism is a chronic systemic inflammatory disease that attacks multiple joints, causing pain in the elderly. This occurs during the inflammatory process that damages bones and joints, causing pain in the elderly (8).

Rheumatism pain management aims to reduce or eliminate pain and discomfort. There are two types of rheumatism

management: pharmacological (drug) management and non-pharmacological (non-drug) management. Pharmacological interventions, such as analgesics, to treat patients' pain have the benefit of accurate dosage because they are made from extracts or active substances. However, the drawbacks are stomach side effects and a high price (8). Massage, cutaneous stimulation (warm bath, cold compress, warm water compress), TENS (Transcutaneous Electrical Nerve Stimulation), relaxation techniques, distraction, hypnosis, and biofeedback are non-pharmacological treatments. This non-pharmacological action has the advantages of being inexpensive, simple, effective, and devoid of adverse side effects (9).

Five-finger relaxation is giving intervention in a relaxed state, then focusing on the image or memory created while touching the five fingers sequentially and imagining pleasant memories (10). The five-finger relaxation technique is a general relaxation technique involving the recollection of pleasant past experiences. Relaxing the five fingers leads a person's subconscious to enjoyable experiences, resulting in comfort and relaxation. Decreases in anxiety and other emotional issues are observed (11). The five-finger relaxation technique is very effective at reducing pain intensity because, with the aid of imagination, the patient will form an image that will be received as a stimulus by the various senses so that a pleasant idea would be developed. The patient's feelings will be calm, thereby preventing the patient from concentrating on feeling pain. The release of muscle tension and discomfort will result in a relaxed and comfortable body (Smeltzer & Bare (2010) in (12).

In addition to the pain caused by rheumatic diseases, the elderly will experience a decline in sleep quality. The WHO concept of sleep quality defines quality as individuals' perceptions of their position in life within the context of the culture and value systems in which they reside and in relation to their goals, expectations, and concerns (Pangkahila,

2007 in (13). However, the intervention group showed significantly more significant improvement than the control group. In the control group, the increase was due to the administration of pharmacological therapy (12).

According to Darmojo and Martono, poor sleep quality prevents the elderly from regaining their physical condition, resulting in feelings of weakness, dizziness, drowsiness, and fatigue. In addition, poor sleep quality can increase the risk of suicide by causing anxiety, irritability, concentration difficulties, and stress. As a result of this poor sleep quality, the elderly may experience changes in functional performance that impact their social relationships (14).

To enhance the quality of sleep, a five-finger relaxation technique is required. This five-finger hypnosis technique can induce alpha waves, increase delta waves, and affect circadian rhythms during sleep. This will maintain a state of deep sleep, reducing the likelihood of a sudden awakening during the night (Tang, Liou, & Lin, 2010) in (15).

There is currently no unique action or program for elderly rheumatism sufferers. And the five-finger relaxation technique has never been utilized at the Selabatu Public Health Center, even though this non-pharmacological therapy can aid in managing pain in elderly rheumatic patients. The researcher is interested in conducting research titled The Effect of Five Finger Relaxation Techniques on Pain and Sleep Quality in Rheumatically Elderly People in Selabatu Village, Selabatu Health Center Work Area, Sukabumi City.

OBJECTIVE

The study aimed to the effect of five finger relaxation techniques on pain and sleep quality in rheumatically older people in Selabatu Village, Selabatu Health Center Work Area, Sukabumi City.

METHODS

Design

This is a quasi-experimental study with a control group. The study population

consisted of all rheumatism sufferers from Selabatu Village, Selabatu Public Health Center, Sukabumi City,

Sample, sample size, and sampling technique

We involved 32 participants in this study. It was divided into control and intervention groups of 16 respondents using purposive sampling. The inclusion criteria included those aged 60 or older, taking anti-pain medication, and able to communicate and experience pain on a 7-point scale.

In selecting the sample, criteria were chosen where the requirements were elderly aged 60 years, respondents who received anti-pain medication, respondents who could be invited to communicate, and respondents who experienced pain on a scale of ≤ 7 .

The instrument for data collection

The data collection method used a questionnaire. The pain research instrument is a Brief Pain Inventory (BPI) comprised of 15 questions organized into three indices. At points 1 through 6, a pain severity index exists (current, average, most severe, and least pain). Points 7-8 determine which therapies and interventions the patient has received and is aware of. In addition, at point 9, there is an index of functional impairment comprised of seven sub-questions (general activity, mood, ability to walk, normal work, relationships with other people, sleep, and enjoyment of life). Buysse developed the Pittsburgh Sleep Quality Index (PSQI) to measure sleep quality. The PSQI consists of 19 questions that measure seven assessment components, including subjective sleep quality, sleep latency, sleep duration, and sufficient sleep in bed, at 1-month intervals (habitual). Symptoms of sleep disturbance include daytime dysfunction, use of sleeping medication, and sleep disturbance.

Five-finger relaxation technique

The control group that received pharmacological therapy, usually obtained from a doctor's prescription, was not treated with the five-finger relaxation technique.

Meanwhile, the intervention group received pharmacological treatment, usually obtained from a doctor's prescription, and was given the five-finger relaxation technique treatment. The treatment of this five-finger relaxation technique begins with an explanation of the five-finger relaxation technique procedure, its benefits, and how long it is carried out. The first step of the five-finger relaxation technique is to adjust the client's position as comfortably as possible. Then check vital signs, and give the five-finger relaxation technique unhurriedly, where first, touch the thumb with the index finger and remember when the patient feels healthy; second, touch the thumb with the middle finger and reminisce when the patient first experienced happiness. The third, touch the thumb with the ring finger and reminisce when the patient received a compliment; and finally, touch the thumb with the little finger and reminisce about the most beautiful place ever visited. After examining vital signs, This technique is performed for 10-15 minutes, ten repetitions on one day for three weeks.

Data Analysis

Analysis of descriptive data using the mean and standard deviation Shapiro-Wilk test was used for normality, paired sample t-test, and independent sample t-test for hypothesis testing.

RESULTS

Description of Respondent Characteristics

Characteristics of respondents in this study were seen by age, gender, education, occupation, and treatment, which are presented in the following table:

Table 1 Description of Respondent Characteristics

No	Description of Respondent Characteristics	Control		Intervention	
		F	%	f	%

Table 2a shows the mean (Mean + SD) pain intensity in the intervention group before the five-finger relaxation was higher

1	Age				
	60-62	8	49.1	9	53.4
	63-65	5	32.1	7	43.4
	66-68	3	18.8	0	00.0
2	Gender				
	Male	6	37.5	4	25
	Female	10	62.5	12	75
3	Education				
	elementary school	3	18.8	2	12.6
	Junior high school	3	18.8	3	18.8
	Senior high school	7	43.6	7	43.6
	College	3	18.8	4	25.0
4	Job				
	Work	9	55.2	10	62.5
	Doesn't Work	7	43.8	6	37.5
5	Medication				
	Piroxicam & Metil	12	19.4	10	62.5
	Voltadex	4	80.6	6	37.5

Based on these data, most respondents in the control group were aged 60 to 62 (49.1%), female (62.5%), had completed high school (43.6%), were employed (55.2%), and were receiving drug therapy (piroxicam and methyl) (19.4%). Like the intervention group, the majority of these individuals were between the ages of 60 and 62 (53.4%), were female (75%), had a high school education (43.6%), were employed (62.5%), and were receiving drug therapy (piroxicam and methyl) (62.5%).

Univariate Analysis

Univariate analysis was conducted to describe the respondents' pain intensity and sleep quality before and after being given five-finger relaxation. The results of the complete univariate analysis can be seen in the following table 2:

Table 2a. Description of Respondents' Pain Intensity in the Intervention and Control Group

Group		N	Mean	Mean Difference	SD	df
Intervention	Pre	16	4.75	1.062	1.342	15
	Post	16	3.69		1.078	15
Control	Pre	16	5.25	1.188	1.291	15
	Post	16	4.06		1.124	15

(4.75 + 1.342) than after the intervention (3.69 + 1.078). Likewise, with the control group, there was a decrease in pain intensity with

an average of before (5.25 + 1.291) and after (4.06 + 1.124).

Table 2b. A Comparison of the Sleep Quality of Respondents in the Intervention and Control Groups

Group		N	Mean	Mean Difference	SD	df
Intervention	Pre	1	6.75	1.06	1.43	1
		6				5
	Post	1	5.69		1.30	1
		6				5
Control	Pre	1	8.62	0.25	2.06	1
		6				5
	Post	1	8.37		2.02	1
		6				5

Table 2b demonstrates that the intervention group's average (Mean + SD) sleep quality decreased from 6.75 + 1.437 to 5.69 + 1.302 after the intervention. For the control group, the average quality of sleep before (8.62 + 2.061) and after (8.37 + 2.028) the intervention was comparable.

Bivariate Analysis

Bivariate analysis was conducted to determine the difference in pain intensity and sleep quality of the elderly with rheumatism before and after performing the intervention and control groups before and after five-finger relaxation.

a. Differences in Rheumatism Patients' Pretest and Posttest Pain Intensity Between the Intervention and Control Groups

The difference in pain intensity of pre-test and post-test rheumatic patients in the intervention and control groups can be seen in the following table 3:

Table 3. Differences in Rheumatism Patients' Pretest and Posttest Pain Intensity Between the Intervention and Control Groups

Group		N	Mean	Mean Difference	SD	T	P-Value
Intervention	Pre	1	4.75	1.062	1.3	6.2	0.00
		6					
	Post	1	3.69		1.0	4.2	0.04
		6					
Control	Pre	1	5.25	1.188	1.2	7.2	0.00
		6					
	Post	1	4.06		1.1	4.2	0.00
		6					

Po	1	4.06	1.1
st	6		24

Table 3 shows differences in the pain intensity of rheumatic patients before and after being given five-finger relaxation in the intervention group (P = 0.000) and the control group (P = 0.000).

b. Differences in Sleep Quality between Pretest and Posttest for Rheumatic Patients in the Intervention and Control Groups

The difference in sleep quality of pre-test and post-test rheumatic patients in the intervention and control groups can be seen in the following table 4:

Table 4. Differences in Sleep Quality between Pretest and Posttest for Rheumatic Patients in the Intervention and Control Groups

Group		N	Mean	Mean Difference	SD	T	P-Value
Intervention	Pre	1	6.75	1.06	1.4	4.2	0.00
		6					
	Post	1	5.69		1.3	3.7	0.02
		6					
Control	Pre	1	8.62	0.25	2.0	2.2	0.04
		6					
	Post	1	8.37		2.0	3.6	0.01
		6					

Table 4 shows differences in sleep quality before and after being given relaxation of the five fingers of rheumatic patients, both in the intervention group (P = 0.000) and the control group (P = 0.000).

c. Intervention Group and Control Group

Differences in the Effect of Five Finger Relaxation on Pain Intensity in Rheumatic Patients.

The difference in five-finger relaxation on the pain intensity of rheumatic patients between the intervention group and the control group can be seen in the following table 5:

Table 5. Intervention Group and Control Group Differences in the Effect of Five-Finger Relaxation on Pain Intensity in Rheumatic Patients

N o	Nyeri	N	Mean	Mean Differ ence	P- Value
1	Intervention	1 6	3,69	0.375	0.009
2	Control	1 6	4,06		

Table 5 demonstrates, with a P value of 0.009, that there is a statistically significant difference between the pain intensity of rheumatic patients in the intervention and control groups.

d. Differences in Five Finger Relaxation on Sleep Quality of Rheumatic Patients between the Intervention Group and the Control Group

The difference in five-finger relaxation on the sleep quality of rheumatic patients between the intervention group and the control group can be seen in the following table 6:

Table 6. Differences in Five Finger Relaxation on Sleep Quality of Rheumatic Patients between the Intervention Group and the Control Group

Nyeri	N	Mean	Mean Difference	P- Value
Intervention	16	1.06	0.812	0.007
Control	16	0.25		

Table 6 shows a significant difference in the sleep quality of rheumatic patients between the intervention group and the control group, with a P value of 0.007.

DISCUSSION

The Five Fingers Relaxation Technique's Effect on Rheumatic Patients' Pain

The results demonstrated a significant reduction in pain intensity among rheumatic patients in the intervention and control groups following treatment. The decrease in pain in rheumatic patients was statistically distinct between the intervention and control groups, according to the results of various tests.

Rheumatism is a chronic disease characterized by joint pain, stiffness,

swelling, and restricted movement and function (16). Although rheumatism can affect any joint, morning stiffness in the small joints of the hands and feet is the most common (17). This can last from one to two hours to an entire day (18).

Pain is defined as a feeling of mild or severe discomfort that can only be felt by oneself and not by others, including one's state of mind, activities directly, and life changes (19). Pain is a vital sign and symptom that can indicate the occurrence of a physiological disturbance. Trauma, inflammation, blood circulation disorders, and blood vessel disorders can all result in pain. A client's attention or concentration on an incident, the client's level of awareness, and the client's perception of the pain are all factors that can affect pain (19,20). Pain in the elderly who suffer from rheumatism is a chronic systemic inflammatory response that attacks several joints that occurs in the inflammatory process that causes damage to the bones and joints so that the elderly experience pain (18).

By administering non-steroidal anti-inflammatory drugs (NSAIDs) or non-steroidal anti-inflammatory drugs (NSAIDs), rheumatism is treated pharmacologically (NSAIDs) (16). This medication reduces inflammation-related pain by inhibiting the formation of prostaglandins, which are chemicals that cause pain indicators to swell (21). According to respondent characteristics, patients ingested NSAIDs in piroxicam and voltadex, which possessed analgesic, antirheumatic, and anti-inflammatory properties. This is one of the reasons for the significant reduction in both the intervention and control groups, despite the control group not receiving five-finger relaxation.

The mean pain intensity of rheumatic patients in the control group was higher than in the intervention group, according to the second finding of this study. This indicates that although both groups experienced a significant reduction in pain intensity, the decline was greater in the intervention group.

In the intervention group, participants received five-finger relaxation therapy once every two days for 15 sessions over one month. Each session lasted ± 10 minutes.

The five-finger relaxation technique is one of the therapeutic techniques developed by Davis M. in complementary therapy. It is a calming, relaxing therapy when patients are asked to recall pleasant past experiences (22). Patients who used the five-finger relaxation technique were guided back to happy memories in their subconscious to acquire a sense of ease and relaxation (23).

Individually, the five-finger relaxation technique creates a pleasant image, focuses on this image, and gradually diverts attention away from pain. Additionally, a pleasant stimulus from the outside can stimulate the secretion of endorphins, thereby reducing the patient's perception of the painful stimulation (20). The five-finger relaxation technique is effective at reducing the intensity of pain because, with the assistance of the patient's imagination, it forms an image that is received as a stimulus by the various senses, resulting in the formation of a beautiful appearance and a sense of calmness that distracts the patient from feeling pain (24). Muscle tension and discomfort will be alleviated, resulting in a relaxed and comfortable body. The five-finger activity induces relaxation by creating a relaxed and comfortable state for the autonomic nervous system to stimulate the body's vital systems, thereby reducing muscle tension.

Additionally, heart rate and respiratory rate will decrease. This will aid in the ability to control painful sensations (20,25). Further, relaxation activities can increase the body's endorphin levels. Endorphins are neuropeptides produced by the body when it is relaxed. Endorphins, like morphine, are released by compounds in the human brain due to their mood-enhancing effects, thereby shifting the individual's attention away from the source of pain (26).

In general, regular practice of five-finger relaxation will yield beneficial effects. The work of autonomic muscles is affected by the changes that occur during and after

relaxation. This relaxation causes emotional reactions and a calming effect. The hypothalamus will produce Corticotropin-Releasing Hormone when calm emotions are transmitted (CRH). CRH stimulates the anterior pituitary to secrete neurotransmitters that affect mood (enkephalins and endorphins) (27,28).

The Five Fingers Relaxation Technique's Effect on Sleep Quality in Rheumatic Patients

The results demonstrated that five-finger relaxation improved the quality of sleep. The quality of sleep improved in both the control and intervention groups. However, the increase was significantly more significant in the intervention group than in the control group. This is consistent with the research of Dewi et al. (2018) and Hartono et al. (2019), which states that the five-finger relaxation technique improves the quality of sleep (12,29).

Relaxation therapy gives trainees a sense of calm by increasing the oxygen supply to the brain and blood supply to the muscles, thereby reducing tension and enhancing sleep quality. The five-finger relaxation technique improves the quality of sleep in patients with arthritis. This treatment is effective when administered regularly and consistently. Changes during or following relaxation influence the autonomic nervous system's mechanisms. This treatment can produce an emotional response and a calming effect by shifting the dominant sympathetic nervous system to the parasympathetic nervous system. When the neurotransmitter NO (nitric oxide) is released, it affects the performance of superficial muscles, making them more relaxed, stimulating blood vessels, and widening them, accelerating the body's blood supply and generating more energy (11,30).

During treatment for rheumatism, a high proportion of elderly patients reported sleep disturbances. Various types of sleep disorders, such as insomnia, are prevalent in rheumatic patients. Insomnia is characterized by trouble falling asleep or

staying asleep, waking up earlier than desired, and excessive sleeping. If a person achieves poor sleep quality, he may experience feelings of restlessness and agitation when he awakens in the morning, proceed through the day with a lack of vigor, and complain of activity disruptions (11).

Complementary therapies, such as the five-finger relaxation technique, can be a non-pharmaceutical alternative treatment for enhancing sleep quality. One of the benefits of this treatment is that it reduces the risk of sedative and hypnotic side effects that can worsen insomnia. In addition, it can reduce medical expenses and prevent complications associated with untreated sleep disorders. Therefore, this technique is effective when performed by patients and their families independently at home (11).

The five-finger relaxation technique improves the sleep quality of arthritic patients, according to Welz. Regular use of this treatment yields positive outcomes. Changes that occur during or after relaxation will influence the autonomic nervous system. In addition to producing an emotional response and a calming effect, this technique shifts the dominant sympathetic nervous system to the parasympathetic nervous system. Combining deep breathing techniques and meditation in the five-finger relaxation technique can trigger the release of the neurotransmitter NO (nitric oxide), which relaxes superficial muscles and dilates blood vessels. This will accelerate the work of the body's blood supply and produce more energy (12).

CONCLUSION

The five-finger relaxation technique has a significant effect in reducing pain and poor sleep quality in Rheumatic Patients. This study provides new information compared to previous studies that only focused on one symptom individually. It is hoped that the five-finger relaxation becomes a form of independent nursing intervention for a nurse in providing nursing care for Rheumatic Patients.

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REFERENCES

1. Dahlan AK, Umrah, Abeng T. Kesehatan Lansia: Kajian Teori Gerontologi dan Pendekatan Asuhan Pada Lansia. Malang: Intimedia; 2018.
2. Kemenkes. Riset Kesehatan Dasar. Paper Knowledge. Towar a Media Hist Doc. 2019;
3. Wahyuni NPDS. No TitleSehat Dan Bahagia Dengan Senam Bugar Lansia. J Fak Olahraga Dan Kesehat. 2019;224–33.
4. Kemenkes. Riset Kesehatan Dasar. 2018;
5. Bawarodi F, Rottie J, Malara R. Faktor-Faktor Yang Berhubungan Dengan Kekambuhan Penyakit Rematik Di Wikayah Puskesmas Beo Kabupaten Talaud. E-Journal Keperawatan (e-Kp). 2017;5:1–424.
6. Octa RA, Febriana W. Implementasi Evidence Based Nursing Pada Pasien Rematik: Studi Kasus. Real Nurs J. 2020;3(1).
7. Udiyani R. Pengaruh Pemberian Kompres Hangat Terhadap Penurunan Nyeri Rematik Pada Lansia. J Darul Azhar. 2018;5(1):72.
8. Yanti E, Arman E. Pengaruh Pemberian Kolang Kaling (Arengia Pinnata) Terhadap Penurunan Skala Nyeri Rematik Pada Lansia Di Wilayah Kerja Puskesmas Kumun. J Kesehat Saintika Meditory. 2018;1(1):45–52.
9. Zakiyah A. Nyeri: Konsep dan Penatalaksanaan dalam Praktik Keperawatan Berbasis Bukti. 2016;
10. Halim AR, Khayati N. Pengaruh Hipnoterapi Lima Jari Terhadap Penurunan Skala Nyeri Pada Pasien Kanker Serviks. Ners Muda. 2020;1(3):159.
11. Dewi R. Pengaruh Teknik Relaksasi Lima Jari Terhadap Kualitas Tidur, Fatigue, dan Nyeri Pada Pasien

12. Kanker Payudara. Deepublish. 2021; Dewi R, Rahayuwati L, Kurniawan T. The Effect of Five-Finger Relaxation Technique on The Sleep Quality of Breast Cancer Patients. *J Keperawatan Padjadjaran*. 2018;6(2):183-92.
13. Chasanah N. HUBUNGAN KUALITAS TIDUR DENGAN KUALITAS HIDUP PADA LANSIA DI KELURAHAN KARANGASEM KECAMATAN LAWEYAN SURAKARTA. 2017; Available from: <https://repositorio.ufsc.br/bitstream/handle/123456789/186602/PPAU0156-D.pdf?sequence=1&isAllowed=y%0Ahttp://journal.stainkudus.ac.id/index.php/equilibrium/article/view/1268/1127%0Ahttp://www.scielo.br/pdf/rae/v45n1/v45n1a08%0Ahttp://dx.doi.org/10.1016/j>
14. Astria NKR. GAMBARAN KUALITAS TIDUR PADA LANSIA DI DESA ADAT PECATU, KECAMATAN KUTA SELATAN, KABUPATEN BADUNG TAHUN 2016. *Kedokteran*. 2016;(Kualitas Tidur Lansia):1-68.
15. Marheni D. PENGARUH HIPNOTIS 5 JARI TERHADAP INSOMNIA PADA REMAJA DENGAN KECANDUAN GADGET DI SMPN 1 KALIANGKRIK KABUPATEN MAGELANG. *Univ Muhammadiyah Magelang*. 2019;1-68.
16. Bullock J, Rizvi SAA, Saleh AM, Ahmed SS, Do DP, Ansari RA, et al. Rheumatoid arthritis: A brief overview of the treatment. *Med Princ Pract*. 2019;27(6):501-7.
17. Scherer HU, Häupl T, Burmester GR. The etiology of rheumatoid arthritis. *J Autoimmun*. 2020;110(December 2019):102400.
18. Fraenkel L, Bathon JM, England BR, St.Clair EW, Arayssi T, Carandang K, et al. 2021 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. *Arthritis Care Res*. 2021;73(7):924-39.
19. Cao Y, Fan D, Yin Y. Pain Mechanism in Rheumatoid Arthritis: From Cytokines to Central Sensitization. *Mediators Inflamm*. 2020;2020.
20. Dewi R. The Influence of Five Relaxation Techniques on Pain in Breast Cancer Patients. *Proceeding 3rd Int Semin Glob Heal*. 2019;3(1):149-55.
21. Baig S, DiRenzo DD. Complementary and Alternative Medicine Use in Rheumatoid Arthritis. *Curr Rheumatol Rep*. 2020;22(10).
22. Nugroho ST. Pengaruh Intervensi Teknik Relaksasi Lima Jari Terhadap Fatigue Klien CA Mamae Di RS Tugurejo Semarang. *Univ Diponegoro*. 2016;1-181.
23. Dewi R, Panduragan SL, Umar NS, Yulianti M, Budhiana J. The Five-Finger Relaxation Techniques on Anxiety, Stress, and Quality of Life in Breast Cancer Patients. 2022;18:96-100.
24. Kenhapsari AN. LITERATURE REVIEW: PENGARUH RELAKSASI GENGAM JARI TERHADAP NYERI PADA IBU POST SECTIO CAESAREA. *Akad Keperawatan Pemkab Jombang*. 2021;(1996):6.
25. Hendren RL, Widjaja F, Lawton B. Complementary and Integrative Approaches. *Autism Spectr Disord*. 2018;307.
26. Dewi R, Agustina FD, Budhiana J, Fatmala SD. Effects of Five-Finger Relaxation Technique on Depression in Type 2 Diabetes Mellitus Patients. *J Keperawatan Soedirman*. 2021;16(1):43-7.
27. Sumirta IN, Candra IW, Inlamasari. Pengaruh Relaksasi Lima Jari Terhadap Depresi Pada Orang Dengan Hiv/Aids (ODHA). 2018;1-10.
28. Dewi R, Rahayuwati L, Kurniawan T. Five-Finger Relaxation Technique on Fatigue and Pain of Breast Cancer Patients. *Int J Psychosoc Rehabil*. 2020;24(06):14053-9.
29. Hartono D, Somantri I, Februanti S. Hipnosis Lima Jari dengan

- Pendekatan Spiritual Menurunkan Insomnia pada Lansia. *J Kesehat.* 2019;10(2):187.
30. Irawati K, Budi AWS, Haris F. Stress Management Training for Working, Elderly, and Health Cadre Women: Rumah Pendamping Emak Sehat Jiwa. *J Pengabdian Kpd Masyarakat (Indonesian J Community Engag.* 2021;7(2):130.