Literature Review : Non-Pharmacological Therapy for Pain Reduction in Cancer Patients

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Abstract

Cancer is a disease characterized by the uncontrolled proliferation of aberrant cells in the body. This uncontrolled cell development can harm regular cells around it and elsewhere in the body. Pain management in breast cancer patients can be applied pharmacological (therapy with drugs) and nonpharmacological (complementary therapy). The goal of this study is to determine whether non-pharmacological therapy may be employed to reduce pain in cancer patients. The type of research used is a literature review, where data from the same study is grouped based on the measured results. A series of keyword models are used to conduct literature searches using Google Scholar. Journal searches are limited from 2018 to 2024 and 70 articles were found according to the research theme. After the selection stage of research articles, twenty articles were selected that met the inclusion and exclusion criteria of the research with an experimental study design. Based on the findings of the literature study, it was found that the types of non-pharmacological therapies that can be done to reduce pain in cancer patients such as Slow Stroke Back Massage Technique, Benson Relaxation, Virtual Reality Therapy, Acupressure, Murotal Therapy Al-Qur'an and Dhikr, Classical Masase, Transcranial Magnetic Stimulation (TMS) Action, Five Finger Relaxation, Guided Imagery Relaxation with Lavender Aromatherapy, Respiratory Relaxation and SEFT Therapy, Combination of Progressive Muscle Relaxation (PMR) and Guided Imagery, as well as Music and Hypnotherapy

Background

Cancer is a disorder in which cells lose control of regular systems, allowing them to grow abnormally, rapidly, and uncontrollably. The cells divide abnormally uncontrollably and attack the surrounding healthy tissue[1]. Cancer is the world's second greatest cause of mortality, accounting for approximately 9.6 million fatalities, or one in every six deaths, in 2018. Men are most likely to get lung, prostate, colorectal, stomach, and liver cancers, whereas women are more likely to develop breast, colorectal, lung, cervical, and thyroid cancers[2]. As many as 50%-90% of cancer patients report feeling pain as a physical symptom that is often felt[3].

Pain is an unpleasant sensory and emotional experience caused by actual and prospective tissue damage. Pain is common due to mechanical or chemical stimulation of the skin at the end of a free nerve called a nocireceptor. Pain is a subjective experience, so the pain felt by each individual will be different from each other. The appearance of pathophysiological cancer pain is an interaction between cancer cells, peripheral and central nervous systems and the immune system[3].

Pain management in cancer patients can be applied pharmacological (therapy with drugs) and nonpharmacological (complementary therapy). Pharmacologically treatment involves the use of medications such as analgesics to reduce the pain complained of. Meanwhile, non-pharmacological treatment can be performed independently by nurses with relaxation therapy, distraction therapy, music therapy, guided imagery, massage therapy to reduce pain by minimizing injuries to patients[4].

Pharmacological and non-pharmacological therapies are used gradually to address acute pain and anxiety. Acupuncture, Music therapy, social support, spiritual and religious support, exercise, comfortable positions, cold/hot compresses, massage therapy, relaxation therapy,

deep breathing techniques, and distraction techniques are all non-pharmacological pain management strategies that can help reduce pain[5]. Non-pharmacological pain management can improve comfort and patients can control pain if given the right information or education. In addition, non-pharmacological pain management has advantages compared to conventional treatment because this method addresses the cognitive, affective, and sociocultural aspects of the patient[6].

Methods

The type of research used is a literature review, where data from the same study is grouped based on the measured results. A series of keyword models are used to conduct literature searches using Google Scholar. Journal searches are limited from 2018 to 2024. Several journals that met the inclusion criteria were selected. The results of the research are categorized based on the researcher/year/title, method, and research results.

Table 1. Inclusion and Exclusion Criteria for Literature Search

Criteria	Inclusion	Exclusion
Population/Problem	Pain in cancer patients	Pain in patients other than cancer
Intervention	Non-pharmacological therapy	Pharmacological therapy
Comparators	-	-
Outcomes	Non-pharmacological therapy for pain reduction in cancer patients	Pharmacological therapy for pain reduction in cancer patients
Study design	Experimental studies	Literature studies
Year of publication	2018-2024	Before 2018
Language	Indonesia, English	Non-Indonesian and English

Result and Discussion

Based on the analysis or results of literature searches, 1,610 articles were found according to the keywords entered. From the search results obtained, the articles found were then checked for articles that could be accessed from 2018 to 2024, and 70 articles were found according to the research theme. After the selection stage of research articles, twenty articles that meet the inclusion and exclusion criteria of the research with the design of the experimental study were selected.

Table 2. Literature Search Results

No.	Researcher/Year/Title	Method	Result
1	Nuraini et al, 2024[7] "Asuhan Keperawatan Pada Pasien Kanker Serviks Terhadap Penurunan Nyeri Menggunakan Teknik Slow Stroke Back Massage Di Ruang Tulip RSUD Arifin Ahmad Provinsi Riau".	The treatment period of the application of nursing innovation with "Slow Stroke Back Massage" therapy is performed once daily within three days, for ten to fifteen minutes, using a back-to-waist massage method.	The evaluation showed a decrease in the pain scale after being given Slow Stroke Back Massage therapy from a scale of 5 to a scale of 2 for 3 consecutive days.

2	Fatmawati et al, 2023[8] "Penerapan Terapi Relaksasi Benson Terhadap Penurunan Nyeri Pada Pasien Kanker Di Yayasan Kanker Inisiatif Zakat Indonesia Semarang".	The descriptive research methodology is used with a case study technique to examine how nurses utilize Benson relaxation to help cancer patients feel less pain.	The case study results revealed that both respondents had a decrease in pain, with respondent 1 feeling pain on an initial scale of 6 reduced to 2 and respondent 2 feeling pain on an initial scale of 4 decreased to 2 after receiving Benson relaxation treatment for three days.
3	Garret et al, 2020[9] "Patients perceptions of virtual reality therapy in the management of chronic cancer pain".	This trial was conducted to two groups that had never tried VR, using the "immersive multimedia" method	Overall, the use of VR therapy alone to reduce chronic pain has had mixed results, but most have stated that they are able to feel the benefits. The findings also focus on the use of VR for long-term pain therapy.
4	Ramadhana et al, 2023[10] "Akupresur Sebagai Alternatif Untuk Mengurangi Nyeri Pasien Kanker Serviks: Studi Kasus"	The study design used is descriptive with a nursing care process approach in stage 3B cervical cancer patients who receive radiation therapy and experience pain complaints since being diagnosed with cancer. Acupressure is done for 1 week	After 7 days of acupressure intervention, the patient's pain scale decreased from 7 (severe pain) to 3 (moderate pain).
5	Dimyati et al, 2024[11] "Spiritual Caring Terapi Murotal Al-Qur'an Dan Dzikir Terhadap Penurunan Tingkat Nyeri Pada Pasien Kanker"	The technique employed is quantitative observation.	Based on the study's findings, it was found that murottal Al-Qur'an and dhikr were successful in lowering cancer patients' pain levels.
6	Masliha et al, 2021[12] "Penurunan Intensitas Nyeri Dengan Masase Klasik Pada Perempuan Dengan Kanker Payudara Yang Menjalani Kemoterapi"	The intervention that was performed was applying a classical massage to the upper back, shoulders, and backs of both hands. Ten to fifteen minutes are spent on this traditional massage. Devices that Employ a Numerical Rating System	73.1% of the respondents reported having significant pain, according to the statistics. There was a reduction in moderate pain intensity (88.5%) among the respondents following the intervention. The analysis's findings demonstrated a substantial correlation (p-value 0.000) between the administration of classical masase and a reduction in the severity of the pain.
7	Ramadhaniah et al, 2023 [13]	Numeric Rating Scale	TMS action caused a decrease

	"Efek Tindakan Transcranial Magnetic Stimulation (TMS) Terhadap Derajat Nyeri dan Kadar Beta-Endorfin Serum pada Pasien Nyeri Kanker Payudara"	(NRS) assessment and blood sampling were carried out to check serum beta-endorphin levels before and after the intervention.	in pain intensity and increased serum beta endorphin levels in breast cancer pain patients and a correlation was found between the two treatment variables.
8	Dewi et al, 2023[14]

"Coaching Dan Training Teknik Relaksasi Lima Jari Pada Pasien Kanker Payudara Untuk Menurunkan Fatigue, Nyeri Dan Gangguan Tidur" | The implementation of this activity uses coaching and training methods. The number of participants was 15 people. The activity starts from the preparation, implementation, and evaluation stages. | The five-finger relaxation technique that is carried out regularly has a positive effect on reducing fatigue, pain, and sleep disturbances in breast cancer patients. |
| 9 | Haryani et al, 2019[15]

"Efektivitas Pemberian Pendidikan Kesehatan Terstruktur tentang Penggunaan Teknik Non-Farmakologi untuk Mengurangi Nyeri Kanker" | The treatment group was given a booklet on how to handle non-pharmacological pain and a demonstration of non-pharmacological techniques in the form of warm compresses, cold compresses, and relaxation techniques. The control group gets standard care | Cancer patients' pain and ADL difficulties can be effectively reduced by offering systematic health education on the use of non-pharmacological treatments including warm, cold, and relaxation compresses. |
| 10 | Hardianti et al, 2022[16]

"Penurunan Skala Nyeri Pasien Kanker Serviks Menggunakan Kombinasi Teknik Relaksasi Guided Imagery Dengan Aromaterapi Lavender" | This case study uses a descriptive method with a nursing care process approach to 2 cervical cancer patients who experience pain. Before the therapy, the patient has received an explanation and informed consent. | The results of this case study showed that the patient experienced a decrease in pain scale with an average of 4 scores (in case 1) and an average of 2.3 scores (in case 2) after guided imagery relaxation therapy with lavender aromatherapy. |
| 11 | Safitri et al, 2020[17]

"Penurunan Nyeri dengan Intervensi Kombinasi Terapi Relaksasi Pernafasan dan Terapi SEFT pada Pasien dengan Kanker Servik Stadium IIIB" | Before SEFT therapy, patients were relaxed with the breath relaxation method in 3 inhalations, after which SEFT therapy was carried out 1 time per meeting with a time range of 15 minutes for 3 days with unstructured meetings following the pattern of respondents. | The results of this case study show that deep breath relaxation and SEFT therapy are able to reduce the scale of pain. |

12	Wardani et al, 2022[18] "Studi Kasus Pemberian Kombinasi Progressive Muscle Relaxation (Pmr) Dan Guided Imagery Pada Pasien Kanker Ovarium"	Progressive Muscle Relaxation (PMR), guided imagery, and evidence-based nursing were applied in this case study-style research. A sample of three respondents in the intervention group were selected using the Accidental Sampling technique and measured by Numerical Rating Scale (NRS) and the Visual Analog Scale for anxiety,	The combination of progressive muscle relaxation (PMR) and guided imagery was found to alter the Anxiety and Pain scores both before and after the study's conclusion. This combination can be applied to help individuals with ovarian cancer feel less discomfort and anxious.
13	Deng et al, 2021[19] "Aromatherapy Plus Music Therapy Improve Pain Intensity and Anxiety Scores in Patients With Breast Cancer During Perioperative Periods: A Randomized Controlled Trial"	UC, AT, MT, and combination therapy (CT) therapies were administered to 160 breast cancer patients at random in the preoperative phase at a ratio of 1:1:1:1. An analog visual scale was used to quantify anxiety and pain intensity. Utilizing the enzyme-linked immunosorbent assay (ELISA) technique, IL-6 and HMGB-1 were quantified.	Preoperative CT intervention decreased the impact of pain and anxiety in breast cancer patients, while also marginally increasing HMGB-1 and IL-6 levels. Based on these results, it is recommended to use CT as an alternative therapy and complementary therapy for breast cancer patients
14	Pristyanti et al, 2022[20] "Upaya Menurunkan Nyeri Dengan Terapi Nafas Dalam Pada Pasien CA Mammae"	The data collected by interviews and observation of administration of the procedures before and after deep breathing treatment, which carried out three times each day for three days.	Deep breathing treatment can complement pharmacological treatment in lowering the severity of pain in breast cancer patients. It can be utilized as an alternative to pain relief with deep breath therapy for independent treatment to assist relieve pain in ca mammae patients.
15	Im E et al, 2020[21] "The Efficacy Of A Technology-Based Information And Coaching/Support Program On Pain And Symptoms In Asian American Survivors Of Breast Cancer"	The study uses a random pretest/post test group method. The sample in this study was 115 Asian American orgs who successfully survived breast cancer. This study uses an intent-to-treat approach and conducts a growth curve analysis of	The reported technology-based approach can assist Asian-American breast cancer survivors cope with cancer pain and associated symptoms.

a linear mixed model.

16	Suhanda et al, 2021[22] "A Case Study: Murotal Distraction to Reduce Pain Level among Post-Mastectomy Patients"	Postoperative patients are examined from head to toe. Nursing diagnoses are determined by the North American Nursing Diagnosis Association. .	The results revealed that administering murottal therapy intervention for 6 days reduced the pain scale from 4 (1-10) to 1 (1-10). The use of EBN (Evidence Based Nursing) murottal treatment has been shown to be useful in lowering pain severity in postoperative mastectomy patients.
17	Natosba et al, 2019[23] "Studi Deskriptif: Pengaruh Progressive Muscle Relaxation Dan Hypnotherapy Terhadap Nyeri Dan Kecemasan Pasien Kanker Serviks"	The research instruments consisted of respondents' initial screening sheets, respondent characteristics sheets, pain and anxiety measurement observation sheets, pain measurement tools using Visual Analog Scale (VAS), anxiety measurement tools using the Zung Self-Rating Anxiety Scale (SAS/SRAS) questionnaire.	According to the study's findings, complementary therapy with PMR and hypnotherapy should be used as a non-pharmacological treatment to alleviate pain and anxiety in patients with cervical cancer.
18	Sari et al, 2023[24] "Efektivitas Hipnoterapi Terhadap Penurunan Skala Nyeri pada Pasien Kanker Payudara"	The study was carried out on 10 breast cancer patients using a quasi-experimental research methodology with a one-group pre-test post-test design.	The results revealed that there was a lowered average pain scale following hypnotherapy, from 7.6 The bivariate analysis utilizing the Wilcoxon Test yielded a p value of 0.0002, indicating that hypnotherapy has an effect on the lowering of pain scale in breast cancer patients.
19	Milenia et al, 2022[25] "Penerapan Terapi Guided Imagery pada Pasien Dengan Kanker Payudara Dengan Nyeri Sedang"	The case study technique employed is a nursing care strategy in patients with breast cancer pain and is given the application of guided imagery therapy. The number of participants in this case study was 2 participants with main criteria of breast cancer patients who were willing to be respondents, breast	The case study results demonstrated that, before to the intervention, participants 1 and 2 had pain scores of 7 and 6, respectively. Following the intervention, participants 1 and 2 had pain scores lowered to 5 and 4, respectively.

20	Kada et al, 2020[26] "Pengaruh Kombinasi Terapi Musik Dan Art Therapy Terhadap Tingkat Nyeri Pasien Kanker Payudara"	cancer patients who experienced pain on a scale of 6-9 and breast cancer patients who underwent mastectomy. Purposive sampling is the sample strategy employed in this investigation. The respondents' pre- and post-35-minute treatments in the intervention and control groups served as the study's major source of pain scale data. A numeric rating scale (NRS) is used to quantify pain levels.	The study found a significant difference in pain levels before and after treatment in the group that received art therapy and music therapy treatments.

Slow Stroke Back Massage

Slow Stroke Back Massage (SSBM) is one non-pharmacological method of pain relief. SSBM is a skin stimulation activity that helps to ease discomfort, reduce stress, promote relaxation, and enhance blood circulation. In patients with cervical cancer, SSBM treatment can lower the pain scale from the waist to the back with the client's reported pain level, which is 4-5, which is moderate[27]. At the time of Slow Stroke Back Massage therapy on the first day, the patient experienced a decrease in pain scale decreased by 2, from a pain scale of 5 to a pain scale of 3. Slow Stroke Back Massage therapy can improve blood circulation by massaging or re-emphasizing blood flow at the point of the reflex center, in health care can increase the passion for life. Eliminates the feeling of tiredness, stimulates the body's healing naturally by doing massage at certain points on the body. The "Slow Stroke Back Massage" therapy is administered during three days of the treatment period using a back to waist massage method for ten to fifteen minutes each day. The final results showed a decrease in the pain scale after being given Slow Stroke Back Massage therapy from scale 5 to scale 2 for 3 consecutive days[7].

Benson Therapy

Benson's technique, a technique that is useful for reducing pain, insomnia, and anxiety through an effort to concentrate on one focus by repeating a predetermined sentence and momentarily expelling all things that disturb the mind. Combining relaxation techniques with the client's beliefs, Benson Therapy reduces sympathetic nerve activity, which in turn lowers oxygen consumption by the body, resulting in more relaxed muscles and a comforting, peaceful feeling[28]. The case study by Fatmawati et al. revealed that both respondents experienced a reduction in pain after receiving Benson relaxation therapy for three days. Respondent 1 experienced pain with an initial scale of six reduced to two, and respondent 2 experienced pain with an initial scale of four reduced to two. This study concludes that cancer patients can have mild to moderate pain reduction with Benson relaxation treatment[8].

Virtual Reality (VR) Therapy

Virtual Reality (VR) has lately being investigated for pain treatment applications. Giving consumers a sense of presence in a simulated world so they feel as though they are there is the aim of virtual reality technology. To provide an immersive experience, motion tracking, binocular headsets, and computer-based simulation scenarios are usually used. The VR method may be regarded an extra psychological strategy and has been effectively employed in the treatment of acute pain[29] and has recently also been examined as an additional measure in the management of chronic pain[30]. The use of adjunct virtual reality therapy to manage chronic cancer pain yielded mixed outcomes, according to the Garret et al trial, while most participants felt that it was helpful. Pain treatment is a highly customized and intricate procedure, as this study demonstrates[9].

Acupressure Therapy

An alternative therapy called acupressure stimulates the body's acupuncture sites by applying pressure with the fingertips. Acupressure therapy can relax and relieve the pain felt by the patient, it can be used as an alternative to manipulate pain by affecting the adrenal system which acts as an analgetic and sedative drug[31]. Acupressure therapy at Shensu (B23), Hunmeh (B47), Baohuang (B53), Zhibian (B54), and Tai Chong (LV3) points is effective in reducing pain[32]. Manual stimulation of acupressure sites has been proven to boost serotonin and endorphin levels while also improving serum cortisol control. Ramadhana et al found that after 7 days of acupressure intervention, patients exhibited a drop in pain scale from 7 (severe pain) to 3 (moderate pain). Nonpharmacological treatments, namely acupressure, are indicated as the supplemental therapy of choice in nursing interventions, especially in lowering pain in cancer patients[10].

Murotal Therapy Al-Qur'an and Dhikr

Murottal Al Qur'an is one of the non-medical measures to reduce pain. This Religious Therapy uses the recitation of the Qur'an which is listened to for several minutes so that it has a positive impact on the body of the person who listens to it. One of the most wonderful and economical therapeutic instruments is the human voice, which is tangibly present throughout the Qur'anic chant. The Qur'anic chant can lower stress hormones, activate natural endorphin hormones, and can promote relaxation[33]. The results of the t-test analysis on the Qur'an Murrotal Therapy variable were $0.000 < 0.05$, meaning that the Qur'an Murrotal Therapy variable had a significant effect on the Pain Level Reduction variable (Y). Meanwhile, the results of the t-test analysis on the Dhikr Therapy variable were $0.000 < 0.05$, meaning that the Dhikr Therapy variable had a significant effect on the variable of Pain Rate Reduction. This shows that murottal Al-Qur'an and dhikr are effective in reducing the pain level of cancer patients[11].

Classic Masase

Classic masage itself is a relaxation technique to divert pain by gentle touch and pressure under the skin cells. The relaxing effect produced from classical massage can divert the pain suffered by breast cancer patients so that it can reduce pain gaining weight and provide a sense of comfort, stimulating the skin, will stimulate large diameter non-nociceptive fibers to close the gate for small diameter fiber fibers that transmit pain so that pain can be reduced. In the study by Mashila et al., classical masase was used as an intervention to treat the upper back, shoulders, and backs of both hands. The typical massage lasts 10 to 15 minutes. It was shown that 73.1%

of the respondents reported having severe pain. Respondents' moderate pain intensity decreased (88.5%) after receiving the intervention. The analysis's findings demonstrated a substantial correlation (p-value 0.000) between the delivery of classical masase and a reduction in pain intensity. The administration of classical masase stimulates the release of endorphin n, which is a hormone that is a natural pain suppressor or reliever so as to reduce the intensity of pain[12].

Transcranial Magnetic Stimulation (TMS)

Transcranial magnetic stimulation (TMS) is a new non-invasive method of brain stimulation for the treatment of psychiatric and neurological disorders that has been found to have many functions for cancer management and cancer-related pain. The hypothesis regarding the mechanism of the analgesic effect of TMS is that non-invasive stimulation can induce changes in brain plasticity, so that it can correct or modulate plastic changes associated with chronic pain[34]. The use of TMS has been shown to reduce Visual Analogue Score (VAS) and testation in post-chemotherapy patients, cognitive improvement in chemotherapy-related cognitive impairment, and increase 1-year overall survival in cancer patients. The results of the study of Ramadhaniah et al. showed that there was a greater decrease in NRS in the P1 group (group with TMS intervention) compared to the P2 group (control group) with a p value <of 0.001 and there was an increase in serum beta-endorphin levels in the P1 group compared to the P2 group with a p < value of 0.001, which had a strong correlation (r=0.630; p < 0.001). The action of TMS led to a decrease in pain intensity and increased serum beta endorphin levels in breast cancer pain patients and a correlation between these two variables was found[13].

Five Finger Relaxation Technique

The five-finger relaxation technique is a method of using the mind's ability to move the body in order to repair itself and maintain health or relaxation through communication in the body that utilizes all senses, including smell, hearing, sight, and touch. The five-finger relaxation technique is very beneficial for the patient because by creating an imagination that will form a shadow that will be received as a stimulus by the various senses, then by imagining something beautiful the feeling will be calm. The five-finger relaxation technique can greatly reduce the symptoms felt by patients such as pain, fatigue and sleep disturbances[35]. Dewi et al's research showed that on average, before the five-finger relaxation technique was carried out, fatigue (60.74), pain (58.89), and sleep disorders (66.76); and there was an average decrease after being given the five-finger fatigue (24.60), pain (35.56), and sleep disorders (42.86) relaxation technique. The implementation of this activity allows breast cancer patients to understand and be able to perform the five-finger relaxation technique independently. The five-finger relaxation method is carried out on a daily basis and has a good effect on lowering tiredness, pain, and sleep difficulties in breast cancer patients[14].

Combination of Guided Imagery Relaxation Technique with Lavender Aromatherapy

The combination of guided aromatherapy relaxation technique imagery lavender is a development of the Indonesian nursing intervention standard published by PPNI. Therapy combines guided imagery relaxation techniques with lavender aromatherapy using a humidifier with lavender essential oil for 15 minutes. Guided imagery is an attempt to make an impression in the client's mind, then concentrate on the impression so that it is gradually able to reduce the client's perception of pain. Lavender aromatherapy can affect the limbic system in the brain, which is the center of emotions, memory, and mood. Endorphins and encephalin are neurohormones that have pain-relieving properties. The results of the implementation of the

case study after the combination of guided imagery relaxation therapy with lavender aromatherapy for 3 days in 3 meetings of 15 minutes each session can reduce the average pain scale score of 4 and 2.3 using the Numeric Racting Scale (NRC)[16].

Respiratory Relaxation and SEFT Therapy

Breathing strategies can help manage pain by reducing sympathetic activity in the autonomic nervous system. In addition to lowering pain intensity, this technique can also improve lung ventilation and blood oxygenation[23]. The Spiritual Emotional Freedom Technique (SEFT) is an example of a complementary therapy which can be combined with deep breathing exercises. Spiritual Emotional Freedom Technique (SEFT) is included in hypnotherapy which includes the management of the cervix. The effect felt on cervical cancer patients when given hypnosis and self-hypnosis therapy is that they are more able to endure pain and comfort. SEFT treatment is a technique that integrates the body's energy system (energy medicine), spirituality, and tapping at specific spots on the body. SEFT therapy has many benefits, namely it can help overcome physical and emotional problems. Following application of respiratory relaxation therapy and spiritual emotional freedom technique (SEFT) on the third day, the first patient's pain decreased from 4 to 3 on the pain scale, and the second patient's pain decreased from 3 to 2 on the pain scale[17].

Combination of Progressive Muscle Relaxation (PMR) and Guided Imagery

PMR treatment is a two-step procedure for achieving muscular relaxation. The first stage is to impart tension to a muscle region, and the second is to stop the tension and then focus on how the muscle relaxes, feeling the experience of physical relaxation when the tension vanishes. PMR therapy is included in the management of Non-pharmacological Ansietas in ovarian cancer patients. While. Guided Imager which is included in hypnotherapy which is included in the management of Non-pharmacology[36,37]. The effect felt on ovarian cancer patients when given hypnosis and self-hypnosis therapy is that they are more able to endure pain and feel comfortable[18].

Music and Hypnotherapy

One of the strategies for managing pain with non-pharmacological can be treated with hypnotherapy, music therapy and acupuncture which are very effective and have no side effects. Hypnotherapy is a treatment method that is given when the subject is in a relaxed state. Hypnotherapy can reduce pain in breast cancer patients by affecting the limbic and autonomic nervous systems. This creates a relaxed, safe, and pleasant environment, stimulating the reward center and releasing chemical substrates such as gamma amino butyric acid (GABA), endorphin β, and enkephalin, which reduce pain neurotransmitters[24]. Meanwhile, music's influence on pain serves to deflect attention and relaxes the body, increasing the endorphin mechanism and activating the pain suppression system. It then triggers the transmission of A Beta nerve fibers that are greater in diameter and quicker, such that the synaptic gate stops the transmission of pain impulses so that reducing pain perception.[38].

Conclusion

Non-pharmacological pain treatment is highly suggested since it has been shown to lessen pain severity in patients with cancer. There are several non-pharmacological interventions for reducing pain in different types of cancer. Based on the outcomes of the literature study, it was discovered that the sorts of non-pharmacological therapy that can be done to relieve pain in cancer patients such as Slow Stroke Back Massage Technique, Benson Relaxation, Virtual Reality Therapy, Acupressure, Murotal Therapy Al-Qur'an and Dhikr, Classical Masase, Transcranial Magnetic Stimulation (TMS) Action, Five Finger Relaxation, Guided Imagery Relaxation with Lavender Aromatherapy, Respiratory Relaxation and SEFT Therapy, Combination of Progressive Muscle Relaxation (PMR) and Guided Imagery, as well as Music and Hypnotherapy.

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