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## NON PHARMACOLOGICAL THERAPY FOR ANXIETY OF A CHILD WITH CANCER DURING CHEMOTHERAPY : LITERATUR REVIEW

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ARTICLE INFO	ABSTRACT
Received:	<i>anxiety in cancer patients is a psychological disorder caused because the patient faces uncertainty, worry about the effects of cancer treatment, and fear of the development of cancer resulting in death. A child's response to anxiety is varied, influenced by various factors such as the child's developmental age, gender, length of treatment, and previous experiences of pain. Non-pharmacological therapy is a treatment therapy without the use of drugs. Non-pharmacological therapy has significant benefits for reducing a wide range of side effects of chemotherapy including, anemia, thrombocytopenia, leucopenia, nausea, vomiting, alopecia, stomatitis, reactionallergy, neurotoxic, and extravasation</i>
Revised:	
Approved:	
	<i>The main focus of this review literature is nonpharmacological therapy for anxiety of children with cancer During chemotherapy. To optimize this interpretation, researchers used the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guide. From the Google Scholar database found a number of journals a total of 20 results, PubMed found 10, Science Direct 22. Then, the literature is screened whether it is in accordance with the inclusion criteria that have been set in this study. At the final stage only five journals were used for the synthesis process. All five articles are of such good quality that no one is eliminated from the critical appraisal process. Non-pharmacological therapies have significant benefits for reducing various side effects of chemotherapy including anemia, thrombocytopenia, leukopenia, nausea, vomiting, alopecia, stomatitis, allergic reactions, neurotoxicity, and</i>

*extravasation. Various interventions such as music, autogenic exercises, mindfulness programs, virtual reality, guided imagery and progressive muscle exercises are considered necessary to be applied in Indonesia.*

**KEYWORDS**

Keywords are written in English, 3–5 keywords or phrases



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**INTRODUCTION**

Anxiety is an unpleasant emotional state characterized by subjective feelings or feelings of unknown cause such as tension, fear, and worry. While anxiety in cancer patients is a psychological disorder caused because patients face uncertainty, worry about the effects of cancer treatment, as well as fear of the development of cancer that results in death, in some situations they feel angry, afraid of sadness and depressed and often experiencing mood swings (Nurlina, 2021).

A child's response to anxiety is varied, influenced by various factors such as the child's developmental age, gender, length of treatment, and previous experiences of pain. Preschool-aged children usually experience separation anxiety because the child has to part with an environment that he feels is safe, comfortable, affectionate, and fun such as the home environment, games, and his playmates. Non-pharmacological therapy is a treatment therapy without the use of drugs. Non-pharmacological therapy has significant benefits for reducing a wide range of side effects of chemotherapy including, anemia, thrombocytopenia, leucopenia, nausea, vomiting, alopecia, stomatitis, reaction allergy, neurotoxic, and extravasation. Various interventions such as music, autogenic exercises, mindfulness programs, virtual reality, guided imagery and progressive muscle exercises are considered necessary to be applied in Indonesia. (Hermanto, 2020).

Based on data (Ministry of Health of the Republic of Indonesia, 2015) The incidence of cancer in children in Indonesia is still quite high, which shows that the prevalence of cancer in children aged 0-14 years is around 16,291 cases. According to WHO, the World Health Organization, in 2012 there were an estimated 14 million new cancer cases, and about 8.2 million of them were declared dead from cancer. In 2017, it is predicted that nearly 9 million people will die worldwide from cancer and will continue to increase to 13 million people per year by 2030 (Ministry of Health, 2017). In Indonesia, the prevalence of cancer is also quite high, namely 1.4 per 100 population or around 347,000 people (Puspita, 2019).

Meanwhile, the results of a UNICEF survey in 2018 found that as many as 20.72% of the total population of Indonesia based on this data estimated that 35 per 100 children undergo hospitalization and 45% of them experience anxiety (Daniel, 2021). To reduce anxiety in cancer patients with chemotherapy requires nonpharmacological therapy because this intervention is easier, cheaper, safe and enjoyable. (Hermanto, 2020).

This study aims to see what non-pharmacological therapies can be applied to children with cancer During chemotherapy, by conducting literature reviews from national and international journals

## RESEARCH METHOD

The literature search was conducted in August 2022. Researchers conducted data source search sources using several databases such as Googles cholar, PubMed, Science Direct. The keywords used are "Non Pharmacological Therapy with children with cancer During chemotherapy" OR "therapy for pediatric patients suffering from cancer". Researchers provide limitations for journal searches, namely between 2012-2022, with the aim of finding valid sources that are not out of date and appropriate with the development of the times.

Journal searches are carried out through online databases including, Google scholar, PubMed, Science Direct which are then filtered by researchers independently. Journal titles and abstracts stored in international and national databases are searched using existing keywords. Each database is searched using predefined keywords.

The main focus of this review literature is nonpharmacological therapy for anxiety of children with cancer During chemotherapy. To optimize this interpretation, researchers used the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guide. From the Google Scholar database found a number of journals a total of 20 results, PubMed found 10, Science Direct 22. Then, the literature is

screened whether it is in accordance with the inclusion criteria that have been set in this study. At the final stage only five journals were used for the synthesis process. All five articles are of such good quality that no one is eliminated from the critical appraisal process.

Table 1. Non Pharmacological Therapy to reduce anxiety in children with cancer diagnosis

Types of therapy	Effectiveness	Mechanisms in reducing anxiety
Autogenic exercises	Improves self-efficacy and performance, lowers anxiety	Involves deep mental relaxation and is considered a technique in the field of meditation
Virtual reality and music therapy	Reduces anxiety and improves mood in patients who are During chemotherapy	Engages various senses simultaneously, providing synthesis stimuli such as virtual images, special sounds and sometimes tactile and olfactory feedback
Music video therapy	Reduces nyero and anxiety in pediatric patients	Relaxes anxiety and lowers the pulse
Music therapy	Normalizes vital signs and lowers the level of distress when the patient undergoes chemo therapy	Provides calmness and makes the body more relaxed and music becomes entertainment from boredom and tension while During chemotherapy. Not only that, music is also able to increase the comfort factor and reduce emotional stress

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Progressive	Able to reduce anxiety in children in cancer diagnosis	Cognitive intervention or disrupt stress responses to stimuli	behavioral mechanisms can modify external
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## RESULT AND DISCUSSION

Chemotherapy is the treatment of utaa cancer using cytotoxic drugs that are systemic in which the drug is distributed throughout the body to reach cancer cells that have spread far throughout the tbuh or metastasis to other places. The goal of being given chemo therapy is to slow down the growth of cancer or reduce its symptoms. For the side effects of this action is the presence of anemia, thrombocytopenia, leuopenia, nausea vomiting alopecia, stomatitis and reaction allergy. (Hermanto, 2020)

Nonpharmacological management in cancer patients to reduce anxiety and pain include: acupuncture, relaxation therapy, spiritual therapy and various other types of therapy which are considered to be able to reduce anxiety in cancer patients (Holland, 2016)

Autogenic therapy involves deep mental relaxation and is considered a technique in the field of meditation. Autogenic therapy is a type of teapi that is based on automatic suggestion. It has been used as a technique to reduce insomnia, reduce anxiety and also reduce stress in patients with chronic medical

conditions. Opperationally defined to cover traditional and clinical parameters with an approach using specific and clear relaxation techniques involving induced muscle relaxation (Gosselin, 2017)

Music therapy can be chosen as an alternative to reduce these effects. This music therapy can also be done anywhere and anytime. This action can be performed by the patient himself without waiting for help from medical personnel to perform the action. Listening to music can improve the psychological state of the patient and be able to promote their physical well-being. Some studies have also shown positive effects in relieving anxiety, reducing nausea and vomiting and encouraging patient relaxation during chemotherapy (Indovina, 2020)

In relation to the effectiveness of music therapy, in a recent study it was shown that both mysic relaxation videos and virtual reality can be integrated as one of the options for nursing care in patients During chemotherapy. This combination of music therapy can also reduce the prevalence of patient anxiety that is severe enough to improve the patient's perception of the disease and improve comfort, lowering the emotional and traumatic stress of the diagnosis (McFarlane, 2016)

Progressive muscle relaxation in recent years has been practiced as a cognitive behavioral technique that is used in many therapeutic settings. Progressive muscle relaxation involves the use of imagination to create sensory experiences and achievements with the tuuan of the clinic, which can be as specific as reducing heart rate, improving immune function or reducing pain (Giannakopoulou, 2015)

From the research that has been obtained related to non-pharmacological therapies to reduce the anxiety of cancer patients who undergo chemotherapy is very much beneficial. This nonpharmacological intervention can be implemented in any condition or situation and is considered very cheap and can be applied independently without the help of others

## **CONCLUSION**

Non-pharmacological therapies have significant benefits for reducing various side effects of chemotherapy including anemia, thrombocytopenia, leukopenia, nausea, vomiting, alopecia, stomatitis, allergic reactions, neurotoxicity, and extravasation. Various interventions such as music, autogenic exercises, mindfulness programs, virtual reality, guided imagery and progressive muscle exercises are considered necessary to be applied in Indonesia. However, careful preparation is needed, especially education for independent practice for each patient During this therapy. The recommendations for the next study are: looking at the properties and benefits of traditional medicine, especially those from Indonesian.

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