

COMPLEMENTARY AND ALTERNATIVE MEDICINE IN CANCER PATIENTS: A SYSTEMATIC REVIEW

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ABSTRACT

Introduction: Cancer cases in the world reached 19.2 million people in 2020. The most common side effect of cancer treatment with chemotherapy, radiation therapy, bone marrow transplantation, or certain biological response modifiers is fatigue. Complementary therapy is a simple intervention without side effects but provides great benefits for cancer patients to reduce the side effects of chemotherapy. **Method:** A systematic review was carried out using three electronic databases, namely PubMed, Science Direct, and Google Scholar. Instrument: Guide in reviewing journals using PRISMA. **Result and Analysis:** The articles reviewed discussed complementary and alternative medicine therapy in cancer patients with a cross sectional design, from 11 research results more than 54% used spiritual methods followed by herbal therapy and natural nutrition and traditional Chinese medicine. Cancer patients who use CAM are mostly women. **Discussion and Conclusion:** The use of Complementary and Alternative Medicine (CAM) can reduce the side effects of chemotherapy, increase self-confidence, reduce anxiety, increase endurance, improve well-being and improve quality of life.

Keywords: Alternative Medicine, Cancer Cell, Cross Sectional, Complementary Therapy, Quality Of Life

INTRODUCTION

Cancer is a non-communicable disease and requires long-term treatment and is a health burden throughout the world (Howell et al., 2021). Cancer cases in the world reached 19.2 million people in 2020 (Sung et al., 2021). The American Cancer Society estimates that in 2023 there will be 1,958,310 new cancer cases and 609,820 deaths due to cancer (Siegel et al, 2022).

Cancer cases in Indonesia reached 136.2 per 100,000 population and are in 8th place in Southeast Asia, while in Asia Indonesia is in 23rd place. The highest type of cancer in women is breast cancer, namely 42.1 per 100 000 population with an average death of 17 per 100,000 population, and followed by cervical cancer at 23.4 per 100,000 population with an average death of 13.9 per 100,000 population. The prevalence of tumors or cancer in Indonesia shows an increase from 1.4 per 1,000 population in 2013 to 1.79 per 1,000 population in 2018. The highest cancer prevalence is in the Special Region of Yogyakarta province at 4.86 per 1,000 population, in order of 2nd West Sumatra Province 2.47 per 1,000 population and 3rd place Gorontalo Province 2.44 per 1,000 population (Ministry of Health of the Republic of Indonesia, 2018).

Cancer treatment can be done by surgery, radiotherapy and systemic treatment with chemotherapy or targeted therapy (Miller et al., 2019). Cancer treatment is carried out with chemotherapy, radiation therapy, bone marrow transplantation, namely fatigue. Clinically significant levels of fatigue may also negatively impact survival (Allen J, et al, 2006). In an effort to avoid obstacles to patient treatment, interventions need to be carried out, including pharmacological and non-pharmacological therapy. Non-pharmacological therapies include CAM therapy which includes hypnosis, biofeedback, relaxation techniques and meditation (Asha et al, 2020). Complementary therapy is a simple intervention without causing side effects and can provide great benefits for cancer patients to reduce the side effects of chemotherapy (Clemons et al., 2020).

Complementary and Alternative Medicine (CAM) therapy is a non-conventional treatment in the health sector originating from traditional China to treat complaints arising from

chronic diseases such as cardiovascular, rheumatism, diabetes and cancer which has been proven in various studies. A study shows that as many as 91% of cancer patients choose complementary therapy and it is proven to be effective in overcoming the side effects of cancer treatment (Jędrzejewska et al., 2021; Cernasev et al., 2020). Other research results show that CAM therapy is useful in providing comfort and reducing stress so that it can control fear, anxiety and pain

Based on several examples of Complementary and Alternative Medicine (CAM) therapy that has been intervened for cancer patients, further research is still needed regarding which type of therapy is most suitable for certain types of cancer and how long to administer the dose so that it does not interfere with cancer treatment and can provide comfort for the patient.

METHOD

Search Strategy

A systematic review was carried out using three electronic databases, namely PubMed, Science Direct, and Google Scholar. These keywords are applied using Boolean Logic (and, or) in searching articles. Keywords and combinations of MeSH terms are developed and then entered into another database. The keywords and subject titles used in searching for articles are (complementary therapy) AND (alternative medicine) AND (quality of life) AND (cancer) AND (cross sectional)" published from 2014-2024 in English. The inclusion criteria were determined using the population, intervention, comparison, results and time (PICOT) format where the population is clients suffering from advanced cancer, the intervention is complementary treatment, there is no comparison, the outcome is quality of life. This type of research uses a cross sectional design. Articles that did not review Complementary and Alternative Medicine (CAM) without complete readings and abstracts and articles that did not share intervention details were excluded, articles that did not use English, articles that did not use a cross-sectional design were excluded.

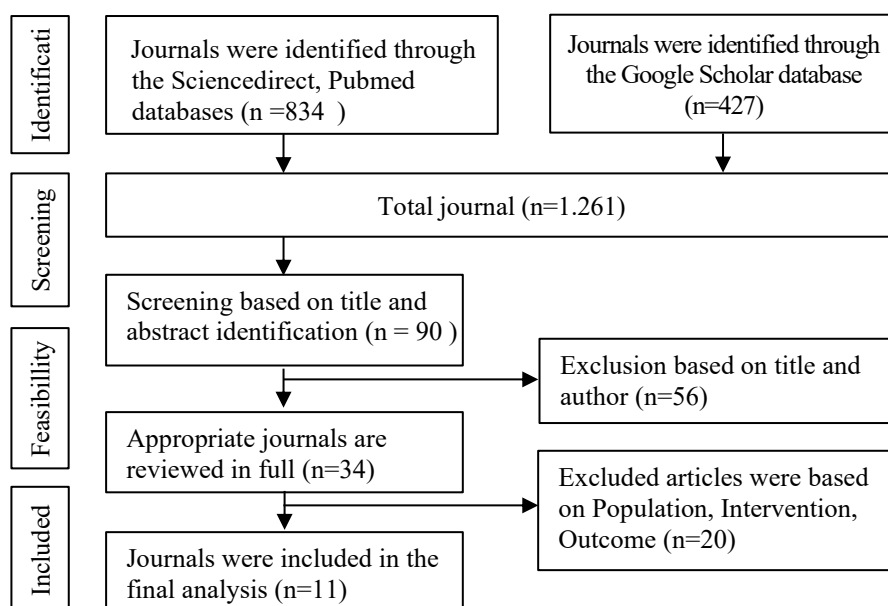


Figure 1. Diagram Flow Systematic Review

Review articles through systematic review with *The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA)* approach. After obtaining articles based on

the database, the author will independently check each title and abstract to exclude irrelevant reports. After removing duplicate results, data is extracted based on inclusion and exclusion criteria. There were 11 selected articles from 20 articles found.

RESULT

No	Research Title	Method	Result
1	<i>Hwang et al., The Use of Complementary and Alternative Medicine by Korean Breast Cancer Women: Is It Associated with Severity of Symptoms?</i> 2015	D : Cross sectional S : 288 patient cancer V : Differences in cancer symptoms in patients using CAM and not using CAM I : All types of CAM A : uji chi-square	Of the 288 patients about 90% most CAM users experience side effects from cancer treatment. CAM users reported more severe anxiety and skin/hair changes than nonusers.
2	<i>Farooqui et al., Use of complementary and alternative medicines among Malaysian cancer patients: A descriptive study</i> Cross-Sectional 2016	D : Cross sectional S : 393 patient cancer V : CAM use patterns among cancer patients I : Suplemen, multivitamin A : uji chi-square	184 patients had used CAM for their cancer. CAM is often used as nutritional supplements, natural products and multivitamins
3	<i>ahall., Prevalence, patterns, and perceived value of complementary and alternative medicine among cancer patients: cross-sectional, descriptive study</i> 2017	D : Cross sectional S : 350 patient cancer V : Prevalence, patterns, and perceived value of CAM among cancer patients I : CAM type of Herbal and spiritual therapy A : chi-square test, and binary logistics regression analysis	Herbal and spiritual medicine, is most often used by cancer sufferers because of the perceived benefits and satisfaction. CAM is most often used by female patients.
4	<i>Baretta et al., Use of Complementary and Alternative Medicine (CAM) in cancer patients: An Italian multicenter survey</i> 2017	D : Cross sectional S : 468 patient cancer V : Survey of CAM use in cancer patients I : CAM type of Herbal and spiritual therapy A : Analisis deskriptif	48.9% said they had recently used CAM. Female gender, higher education, receiving treatment in a highly specialized institution and receiving chemotherapy
5	<i>Zulkipli et al., Use of Complementary and Alternative Medicine</i>	D : Cross sectional S : 400 patient cancer V : Prevalence of CAM use in patients newly	139 people (34.8%) were CAM users. Dietary supplementation is the most frequently used type

	<i>Among Newly Diagnosed Breast Cancer Patients in Malaysia: An Early Report From the MyBCC Study 2018</i>	diagnosed cancer before doing conventional treatment I : CAM is a type of supplement and spiritual A : χ^2 test	followed by spiritual healing and traditional Chinese medicine.
6	<i>Albahrain et al., Quality of life and complementary and alternative medicine use among women with breast cancer 2018</i>	D : Cross sectional S : 95 women with breast cancer V : CAM use and quality of life I : The most commonly used CAM therapies is spiritual therapy, honey, olive oil and herbal therapy A : Statistics Package for Social Sciences (SPSS) version 24.0 was used for analysis	The results of the study concluded that CAM therapy has a positive correlation with global quality of life, physical and social roles, and also body image
7	<i>Chotipanich et al., Association between complementary and alternative medicine use and prolonged time to conventional treatment among Thai cancer patients in a tertiary-care hospital 2019</i>	D : Cross sectional S : 426 patient cancer V : Patterns complement each other and use of alternative medicine and its relationship over time to conventional medicine I : The most commonly used CAM therapy is a herbal product A : Statistics Package for Social Sciences (SPSS) version 24.0 was used for analysis	192 of 426 patients (45.1%) used complementary and alternative medicine; Herbal products are the most common.
8	<i>Jedrzejewska et al., Use of complementary and alternative medicine in patients with cancer and their relationship with health behaviours - Cross-sectional study 2020</i>	D : Cross sectional S : 208 patient cancer V : Application of complementary and alternative medicine methods, health behavior of patients who use alternative medicine and those who do not I : Complementary and alternative therapies	Most patients (85.09%) stated that they used complementary and alternative medicine methods and 45.19% of respondents had a high level of health behavior.

		A : Shapiro Wilk, Student's t-test and Mann-Whitney U-test	
9	<i>Hamash & Hamdan Use of Complementary and Alternative Medicine among Breast Cancer Women in Jordan 2020</i>	D : Cross sectional S : 256 women with breast cancer V : Complementary and Alternative Medicine (CAM) and breast cancer patient demographics I : Complementary and alternative therapies A : chi-square test	50% pasien menggunakan lebih dari satu terapi CAM. Terapi CAM yang paling umum dilakukan adalah mendengarkan kitab suci, dilanjutkan dengan pengobatan herbal, dan terapi nutrisi.
10	Razali et al., Prevalence of Traditional and Complementary Alternative Medicine's Use among Cancer Patients in South Peninsular Malaysia 2020	D : Cross sectional S : patient cancer V : penggunaan pengobatan alternatif tradisional dan komplementer (CAM) pada kohort pasien kanker I : Terapi komplementer dan alternatif A : A chi-square test	50% of patients used more than one CAM therapy. The most common CAM therapy is listening to holy books, followed by herbal medicine and nutritional therapy.
11	<i>Dehghan et al., Psychosomatic Symptoms in Terminally Ill Cancer Patients and Its Relation With Using Complementary and Alternative Medicines: A Cross- Sectional Study in Southeast Iran 2022</i>	D : Cross sectional S : 221 patient cancer V : Use of CAM by terminally ill cancer patients and psychosomatic symptoms I : Complementary and alternative therapies A : the Mann–Whitney U-test	There were no significant differences in physical and psychological symptoms between CAM users and non-CAM users

The articles reviewed discussed complementary and alternative medicine therapy in cancer patients with a cross sectional design, from 11 research results more than 54% used spiritual methods followed by herbal therapy and natural nutrition and traditional Chinese medicine. Cancer patients who use CAM are mostly women.

DISCUSSION

Cancer is a chronic condition that is one of the leading causes of morbidity and mortality worldwide. Mortality rates have decreased due to early diagnosis, improved surgical and radiotherapy techniques and better systemic therapy (Albabbain et al., 2018). Most cancer sufferers experience persistent symptoms, including fatigue, sleep disturbances and balance disorders (Setyawati et al., 2021). One of the treatments given to cancer patients is chemotherapy, however cancer sufferers can experience side effects in the form of nausea and vomiting (Clemons et al., 2020). Cancer sufferers will experience extensive neurological, emotional, behavioral and mental disorders. These conditions can have an impact on reducing the quality of life in cancer sufferers (Setyawati et al., 2021).

Currently, it is known that the use of complementary therapies is increasing to reduce disease symptoms, treatment side effects, and improve the quality of life of cancer management that can be experienced by cancer sufferers.

Mind-Body Therapies which consist of hypnotherapy or meditation and spiritual healing. Prayer is a form of meditation addressed directly to the creator. Praying is a spiritual necessity and teaches spiritual pressure. Praying is an individual behavior that can also influence self-satisfaction and social support (Nasution et al., 2021). Praying is often associated with a person's faith. There is no difference in the type of CAM therapy used with a person's level of faith (Almasdy et al., 2018). Meditation is a relaxation technique to calm the body and mind by focusing on an object, repeating words or mantras and adjusting breathing techniques. This type of therapy shows changes in the results of biochemical compounds including lowering BP and reducing stress (Gayatri et al., 2021).

Alternative Medicinal Systems (AMS) consisting of homeopathy and herbal medicine are widely used to overcome the side effects of conventional cancer treatment and several studies have been conducted to prove the efficacy of CAM. The use of CAM, especially herbal medicines, is most likely influenced by society's traditions in using medicines. natural medicine (Almasdy et al., 2018). The use of herbal medicines compared to other CAM therapies is influenced by culture. Another factor is that herbal medicines are popular, available, cheap and believe that natural products are also safe for the body (Almasdy et al., 2018). Manual Body-Based Therapies consisting of massage, chiropractic, osteopathy and reflexology. Massage therapy can improve sleep quality and reduce fatigue in children with cancer (Setyawati et al., 2021).

The use of complementary and alternative medicine in the category of Traditional Asian Medical Systems (TAMS), which consists of traditional Chinese medicine, acupuncture and acupressure, Chinese medicine derived from herbs works synergistically with medical treatment and can reduce the effects of toxicity, stress and fatigue due to cancer treatment itself. , some respondents used acupuncture and acupressure. National Institutes of Health acupuncture is a treatment, procedure or technique that involves stimulating anatomical locations of the skin with certain techniques and by penetrating the skin with thin needles. Different from acupuncture, acupressure is a treatment technique that involves applying pressure using the thumb, finger or elbow to certain points on the muscles which can stimulate the self's ability to heal naturally. Acupressure is believed to reduce muscle tension and facilitate the distribution of oxygen and nutrients to all parts of the body. Based on research conducted, acupuncture can reduce sleep disorders and is a good and safe treatment for women with breast cancer (Li et al., 2020). Nausea and vomiting due to cancer treatment can also be treated with acupuncture and acupressure.

CONCLUSION

In this article, researchers review the use of the most common types of CAM, namely spiritual healing which is influenced by a person's religion, culture and beliefs, then herbs, natural nutrition and traditional Chinese medicine. Some types of CAM have beneficial effects for some clients, but on the contrary there are detrimental effects without clients realizing that this therapy can be a source of chemicals that can interact with conventional drugs for dangerous effects.

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