



# Complementary and Alternative Medicine Practices in Pediatric Oncology and the Role of the Pediatric Nurse

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## Abstract

Complementary and Alternative Medicine (CAM) is a widely used treatment method worldwide. In recent years, the number of studies on CAM in pediatric patients has increased. Children with cancer are one of the patient groups in which CAM is most frequently applied. The most common uses of CAM are to cure cancer, strengthen the immune system, promote general well-being, and counteract the negative effects of conventional therapy. Chiropractic, homeopathy, naturopathy, acupuncture, prayer, exercise, and massage are the most commonly used CAM practices. It has been determined that most of these applications are used by families without the knowledge of health personnel. In the literature, it has been stated that besides its positive effects, it can cause some negative interactions. Therefore, care should be taken about the CAM method to be used. Pediatric nurses need to raise awareness about the use of CAM. It should be decided together with the parents when planning the care of the children. Further research on its use and effects in children with cancer is recommended.

**Keywords:** Cancer, Child, Complementary and Alternative Medicine, Nursing.

## Introduction

Approximately 250,000 new pediatric cancer cases are diagnosed each year, and the number of pediatric cancer cases is increasing day by day [1]. However, owing to technological developments, the chances of patient survival have increased. In developed countries, 80% of children treated for cancer live. However, this rate is less than 35% in low- and middle-income countries [2].

The increased chance of survival in pediatric cancer is due to the development of treatments for these diseases. However, these treatments have significant physical and emotional side effects and are often applied invasively [3]. Many patients resort to traditional methods (chemotherapy, radiotherapy, blood transfusion) and Complementary and Alternative Medicine (CAM) practices to treat their symptoms [4]. CAM has been defined as "a variety of medical health systems, practices, and products that are not considered part of conventional medicine" [5]. Well-known CAM methods include acupuncture, aromatherapy, yoga, and herbal supplements. In the literature, it is stated that the use of CAM is widespread worldwide. The prevalence of CAM in children with cancer was found to be in the range of 6–91% [6]. Although CAM strategies are widely used

in pediatric oncology, they may pose medical, legal and ethical problems to the healthcare professional. With the use of CAM instead of traditional medicine, treatments with proven efficacy may be delayed, and the risk of mortality increases with the abandonment of conventional treatment [1]. Ethical concerns include the cost, effectiveness, and availability of CAM [7].

It was stated that CAM practices were recommended by friends, relatives, neighbors, and health professionals. It has been determined that the most important sources of information in CAM are the media (internet, magazines, etc.) [8]. Mothers with children with cancer receive the most information about CAM methods from their friends (45%) and family (31%) [9]. Similarly, 44% of children with cancer started using CAM methods upon the advice of family members and friends [10]. This result showed that families used resources such as family members and friends for CAM practices rather than information provided by health professionals. Parents using natural products make blends that they learn from their relatives and through the media. This situation may pose a potential risk to cancer treatment.

Studies on the use of CAM in children with cancer reveal different results. In a Canadian study, the rate of parents who reported using CAM for their children was 11%. The combined use of chiropractic, homeopathy, naturopathy, and acupuncture was reported as 84%. The findings show that CAM is an aspect of children's health care that can no longer be ignored [11]. In a study conducted in Florida, the use of CAM in children with cancer was reported to be at 45%. The most commonly used types of CAM are prayer, exercise, and massage [12]. It has been reported that 18% of children admitted to the hospital due to acute illnesses in New Zealand received CAM treatment before their treatment in the hospital. It has been determined that the treatment varies according to ethnic groups. Homeopathy, naturopathy, chiropractic, aromatherapy, massage, and herbal medicine are the most commonly used types of CAM [13]. The prevalence rate of CAM use in cancer patients in Japan is 44.6%. Mushrooms and medicinal plants were stated to be among the most common products [14]. The most common CAM methods used in the United States of America (USA) have been reported as vitamins/minerals and prayer [15]. In addition, as reported by Sanchez et al., it was determined that one out of every nine children in the USA used CAM [16]. In this study, it was found that parents of pediatric oncology patients commonly used prayer from CAM practices for their children. It has been determined that patients benefit from such

methods to increase their quality of life, control pain, and distract their attention. In a study conducted in Turkey, it was determined that herbal methods using carob, mulberry, molasses, marrow juice, and pollen were preferred as CAM [8]. It has been determined that the most commonly used CAM methods for children with cancer, especially by mothers, are homeopathy, massage, herbal methods using stinging nettle, and prayer [17]. It has been determined that music therapy is effective in reducing nausea, pain and anxiety in children undergoing transplantation [18]. It has also been stated that it facilitates coping in adolescents and is effective in improving mood [19]. Although it is a widely used method by parents, some studies have shown that the use of CAM is often not reported to healthcare professionals. Some families do not report the methods [16] they use because they believe that CAM is not a toxic method [20], some are afraid of the doctor's reaction [21,22], and some believe that the health personnel do not know about CAM.

The most common reasons cited for the use of CAM included curing cancer, parents wanting to do everything possible for their children, boosting the immune system, improving general well-being, and treating the negative effects of conventional therapy [23]. The reasons for using CAM vary by geographic region and culture. Families with chronically ill children refer to CAM more often than families with well-behaved or acutely ill children. Most studies on the use of CAM in children with cancer have shown that more than 30% of children with cancer use CAM during cancer treatment [6]. In a 2003 study, it was reported that 47% of pediatric oncology patients used CAM after diagnosis [24]. The primary use of CAM by families is to improve the child's overall health and provide relief (29%). One study showed that only 8% of families use CAM therapies to "cure" the disease and 2% use CAM to prevent recurrence [25]. The main reason for the use of CAM is to eliminate the negative effects of cancer treatment.

There are some concerns regarding the use of CAM. Even if natural products are used, some negative interactions may occur with methods in cancer treatment. Since children's organs and systems, especially the liver and kidneys, are different from an adult's, side effects can be serious [26]. This may complicate compliance with medical treatments. The positive and negative effects of CAM methods are evaluated with well-designed randomized controlled studies and clinical studies [27]. Nurses who care for children with cancer should identify the effects of CAM on pediatric patients and inform parents about them [28]. A study by Bauer-Wu stated that CAM research with pediatric cancer patients is in its infancy. It has been stated that most of the research in this area focuses on mind-body interventions such as hypnosis and music therapy, which have positive effects on psychological and physical symptoms in children undergoing cancer treatment. There has been criticism that very little work has been done on the use of CAM treatments in pediatric cancer patients. It has been stated that more research needs to be done on the effects and interactions of these therapies, as parents tend to use CAM [29].

## Conclusion

It is important for pediatric nurses to raise awareness about the use of CAM in society. Conducting research on CAM will facilitate communication between healthcare professionals and families. Nurses should ask families what they do to improve their children's health and provide care during illness. The answers to these questions will guide the planning of nursing care. Nurses and parents should make decisions together when making decisions about the care of children.

Both safety and efficacy should be considered when evaluating any CAM practice. Parents can be reminded that studies are being conducted to determine the efficacy of CAM practices in treatment [30]. There can be interactions between all kinds of substances in nature. Parents should be informed that treatment methods have contraindications or risk of allergic reaction even if natural products are applied.

Pediatric nurses should only use standardized CAM products and components whose efficacy has been established through evidence-based studies. In particular, it should comply with official reference guidelines for homeopathic medicines and products. Parents should be warned to examine in detail the potential effects of any product they use for their children. Especially in young children, pharmacokinetic maturation may not be sufficient. Such products can cause liver disease, central nervous system problems, and shock [31,32].

Many questions remain unanswered regarding the effects of CAM, a new practice in pediatric oncology. The long and short-term effects of many methods, such as hypnosis, acupuncture, and massage, are still being investigated. It is not known what obstacles prevent the practice of such methods in oncology clinics. Finally, it is unclear how healthcare team members and parents interpret and apply information about CAM practices. Appropriate policies should be established to ensure compliance of children with cancer with treatment and to determine the best CAM method. Therefore, accurate identification of the problems of pediatric cancer patients is an urgent need. More research is needed to define the cultural and regional influences on the use of CAM in pediatric oncology and to prospectively evaluate its outcomes in patients. More education and open communication are needed to improve the quality of health care and ensure understanding of the use of CAM in children with cancer. Healthcare professionals, especially those working in pediatric oncology, have a responsibility to be knowledgeable about CAM. Healthcare professionals should approach patients and their parents without prejudice, and collect information from parents about various CAM methods.

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