

## Complementary and Alternative Medicine (CAM) Use in Pediatric Diseases: A Short Review

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### Abstract:

CAM (Complementary and Alternative Medicine) therapies have become increasingly popular in pediatric populations. phytotherapy are the most common CAM used in children. Yet, little is known about children's preferences for CAM. But It is expected to become more widely integrated into the modern medical system, including the medical curriculum. The aim of this study is to introduce the prevalence and characteristics of CAM use in Pediatrics disease. Further research is warranted to examine the safety and effectiveness of this popular non-allopathic approach to children's health.

### Keywords:

CAM, Complementary and Alternative Medicine, Herbal Medicine, Pediatric Disease.

### Introduction

Complementary and Alternative Medicine (CAM) is defined as "a group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine" (1).

The American Academy of Pediatrics Provisional Section of Complementary, Holistic, and Integrative Medicine, the Task Force on Complementary and Alternative Medicine, stated: "Pediatricians

and other clinicians who care for children have the responsibility to advise and counsel patients and families about relevant, safe, effective, and age-appropriate health services and therapies regardless of whether they are considered mainstream or CAM" (2).

Utilizing data from 2007 National Health Interview Survey (NHIS), Barnes et al recently estimated that 11.8% of children in the U.S. use CAM (3).

This report highlighted the most frequent CAM therapies used among children: biologically based therapies (4.7%), mind-body therapies (4.3%), and manipulative and body-based therapies (3.7%).

In East Asia, the use of CAM is influenced by both culture and local health care

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systems. The Italian Society of Pediatrics established a working-party for CAM (4). Among pediatric populations, CAM interventions such as homeopathy, naturopathy, acupuncture, chiropractic, herbal supplements, vitamin and mineral supplementation, macrobiotics and dietary modifications are reportedly used by 2% to 20–30% of patients (5-7). Higher rates have been reported among children with specific medical conditions, such as pediatric cancer, rheumatoid arthritis and cystic fibrosis, where 30–70% of patients employ CAM therapies (8,9)

### **Complementary & alternative therapies with gastrointestinal complaints:**

Approximately 36–41% of children with gastrointestinal complaints use complementary and alternative medicine (CAM) each year (10-12). Several herbal preparations, including herbal medications, ginger, monoextract and peppermint oil have been employed for the treatment of Functional gastrointestinal disorders (FGIDs).

Nausea/Vomiting:

- Herbs :Ginger, Peppermint, Fennel
- Chamomile Compresses
- Aromatherapy: Citrus (Bergamont, Citrus Mixtures)
- Acupressure :P-6 Point (Acupressure bands)

### **Constipation in children:**

Constipation is a very common presentation, both in primary and secondary care. Prevalence of functional constipation in children ranges from 4-36%.

### **Senna:**

Sondheimer et al found that mineral oil (compared to senna) was more likely to reduce the frequency of soiling and recurrence of symptoms of constipation. Perkin found that lactulose was significantly more likely to give greater number of days of normal stool motions compared to senna (13).Berg compared senna to placebo and found no significant differences in the may

be better tolerated, PEG may be more effective. Sondheimer in a non-blinded study showed mineral oil to be superior to Senna in reducing constipation recurrences when used over 3 months (14). More evidence is needed to assess the role of Senna in treating constipation children.

### **Pediatric Diabetes:**

The most common CAM therapies reported: vitamins and minerals, herbal therapies and dietary supplements.

### **Chronic Pain:**

Over 60% of patients elected to try at least one CAM approach for pain. The most popular CAM therapies were biofeedback, yoga and hypnosis; the least popular were art therapy and energy healing, with craniosacral, acupuncture and massage being intermediate. In the general U.S. adult population, chronic pain is one of the main conditions for which CAM is used (15-17).

Several reports indicate increased prevalence of CAM use among pediatric patients with cancer (31–73%) (18), juvenile rheumatoid arthritis (70%) (19) and cystic fibrosis (66%) (20). A recent study found that children with chronic illnesses (i.e. cancer, cerebral palsy and inflammatory bowel disease) were three times more likely to use CAM than healthy children (21). In many of these chronic conditions, pain may be a significant problem.Despite the high prevalence of CAM use in children with chronic illnesses, little is known regarding patient preferences for specific CAM therapies.

### **Pediatric Patients with Inflammatory Bowel Disease:**

Practitioners should know that half of their pediatric patients with Inflammatory Bowel Disease (IBD) may be using CAM in conjunction with or as an alternative to other treatments and that certain predictors can help identify those using CAM

therapies. Inflammatory bowel disease is a chronic and relapsing condition characterized by inflammatory infiltrates in the gastrointestinal tract, often requiring repeated exposures to steroids and other immunomodulators and frequent invasive procedures (22,23). Conventional therapies are associated with significant adverse effects, especially corticosteroids with their common side effects and negative impact on the growing and developing child and adolescent. Considering these factors, coupled with a rising interest in alternative therapies, it is not surprising that the use of complementary and alternative medicine (CAM) in chronic pediatric illnesses is reported to be as high as 30% to 70% (24-25). Numerous studies have evaluated the use of CAM in the adult IBD population (26-28); however, the information on CAM in the pediatric population, most of which comes from countries other than the United States, is limited. Published national and international pediatric studies report a wide range of use: 7% to 72% of this population have used CAM therapy or seen an alternative medicine practitioner (29-30). The most common types of CAM used were identified as nutritional supplements, followed by special diets (milk-/dairy-free, low carbohydrates, gluten-free), and only a small percentage used herbal remedies (5.1%).

#### **Herbal Medicine in the Treatment of Attention Deficit Hyperactivity Disorder:**

Attention Deficit Hyperactivity Disorder (ADHD) is a commonly diagnosed childhood disorder that affects approximately 3 to 7% of children. Pharmacotherapy is the most commonly recommended intervention for ADHD and it has been shown to be the optimal treatment option in cases where no other comorbid conditions are present. Complementary and Alternative Medicine is widely used by families of children with

ADHD. Herbal medicine is widely used by families of children with ADHD.

Herbal medicines have been shown to ameliorate ADHD related behaviors in individuals without this disorder (31-32). For example, Ginkgo biloba is somewhat effective for dementia and memory impairment. Ginkgo improves cerebrovascular blood flow and attention and may help to reduce hyperactivity due to boredom and lack of focus (32). However, a recent double blind, randomized and active controlled trial does not support the application of Ginkgo biloba in the treatment of ADHD (33). A study by Akhondzadeh et al, showed that Passiflora incarnata may be a novel therapeutic agent for the treatment of attention deficit hyperactivity disorder.

#### **Complementary and Alternative Medicine Pediatric Oncology:**

The use of complementary and alternative medicine (CAM) in conjunction with standard medical treatment is an emerging integrative approach in the care of oncology patients (34). Among pediatric oncology patients, CAM mind-body interventions are most often used as supportive care therapies to relieve symptoms, reduce side effects of treatment, and cope with the emotional aspect of living with a life-threatening disease (35). The interventions include hypnosis for reducing pain, anxiety, nausea, or vomiting (35) and music therapy and massage for improving mood states, anxiety, and symptom distress (36). With the increased use of CAM among pediatric oncology patients, investigations about its prevalence, safety, and effectiveness have emerged. Bishop and colleagues conducted a systematic review of published studies from 1975 to 2005, which included 28 studies with survey data to summarize the current evidence on the prevalence of CAM among children with cancer (37). The total sample size across all 28 studies included 3526 pediatric oncology patients in whom the prevalence of CAM usage ranged from 6%

to 91%. In contrast to what was reported by Post-White,<sup>57</sup> Bishop and colleagues reported that herbal remedies were the most often reported CAM modality used for these children, followed by diets/nutrition and faith healing (37).

#### **Palliative Care:**

- Alternative medical systems: acupuncture.
- Mind-body medicine: Meditation, prayer, music therapy.
- Body-based therapies: Massage.
- Energy therapies: Reiki, Therapeutic touch.

#### **Conclusion:**

CAM includes techniques such as acupuncture, chiropractics, homeopathy, herbal medicine and spiritual healing. It is important for clinicians to be aware of some of the more common forms of CAM, especially since some therapies can have adverse effects and may interfere with conventional, allopathic medications. Evidence to support the use of CAM modalities in children is lacking, and there is a serious need for further research in this area.

- Children are using CAM therapies.
- Physicians need to inquire about CAM use.
- Biologically active therapies including herbs and dietary supplements are often used.
- Adverse effects and especially interactions with conventional drugs are possible.
- CAM therapies may be especially useful for symptom management.

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