Editorial

Herbal medicine and children

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Herbal medicine or phytotherapy refers to the use of plant products to treat or prevent a disease[1]. Long before the advent of modern medicine, herbs were the mainstream remedies for nearly all ailments. People commonly diagnosed their own illnesses, prepared and prescribed their own herbal medicines or bought them from the local apothecaries[2]. Over the past few decades people have been turning in increasing numbers to the use of herbal medicine as both an alternative and adjunct to modern drugs[3]. Despite the increased popularity of herbal medicine, its safety and effectiveness have not been scientifically proven[4]. Furthermore, adulteration, inappropriate formulation, or lack of understanding of plant and drug interactions have led to adverse reactions that are sometimes life threatening or lethal[5].

Herbs that are used for medicinal purposes come in a variety of forms. Active parts of a plant may include leaves, flowers, stems, roots, seeds, and berries[6]. They may be taken internally as pills or powders, dissolved into tinctures or syrups, or brewed in teas and decoctions[6]. Salves, ointments, shampoos, or poultices may be applied to the skin, scalp, or mucous membranes[6].

Families with children who have chronic medical conditions, such as autism, cystic fibrosis, rheumatoid arthritis or asthma, may be particularly likely to pursue herbal remedies as part of their treatment regimen[6]. The American Academy of Paediatrics Committee on Children with Disabilities recently issued guidelines for discussing such issues with parents of children with chronic health problems, acknowledging the frequency with which such families may seek alternative treatments[7].

The wide variety of herbs used for their purported effects on the body includes chamomile, echinacea, ginkgo biloba, ginseng, goldenseal, peppermint, St. John's wort, red clover, senna and valerian[8].

A growing body of research has demonstrated that the commonly used herbs and spices such as garlic, black cumin, cloves, cinnamon, thyme, allspices, bay leaves, mustard, and rosemary, possess antimicrobial properties that, in some cases, can be used therapeutically[9]. Others such as saffron, turmeric, tea and flaxseed do contain potent phytochemicals which provide significant protection against cancer[9].

Tea tree oil has been found to inhibit the growth of certain dermatophytes and may be useful for fungal skin conditions[10]. *Artemisia* species have compared favourably with chloroquine in the treatment of some types of malaria[11]. In one study, herbal teas that contained chamomile seemed to have a favourable effect on infantile colic[12]. A recent randomized, controlled trial showed no effect of St John's wort on depression[13]. Echinacea has been found to be a potent activator of the immune system. It increases the number and phagocytic performance of granulocytes[14], activates macrophages[15] and T lymphocytes[16], causes elaboration of cytokines[17], and has ill-defined antiviral properties[18]. Such immune changes may explain why echinacea has been advocated to shorten the course and severity of upper respiratory infections in adults; some controlled studies are promising[19]. The usefulness of echinacea for alleviating symptoms of respiratory infections in children has yet to be demonstrated. Research has shown that, ADHD and depression in children, adolescents and adults can be treated using various herbal drugs[20,21].

Plant stem cells therapy is a form of therapy which uses extracts from buds, young shoots and young roots[22]. The *Sinus Complex* is a nutritional complex which eliminates the discomforts of upper respiratory tract infection without causing drowsiness or agitation. The Sinus Complex contains Hornbeam buds, Dog Rose young shoots, Black Elder buds, Black Poplar, Black Currant and Walnut buds[22]. A randomized, double-blind, placebo-controlled trial of herbal therapy for children with asthma provided no evidence to support the use of herbal therapy in children with asthma[23].

Herbs can also produce adverse side effects that range from bothersome (e.g., nausea, abdominal

discomfort) to potentially deadly (e.g., hypertension, serious liver damage)[8]. Herbs believed to have an effect on blood-clotting abilities (e.g., ginkgo biloba, ginseng) may cause serious side effects for patients with certain blood-related conditions such as haemophilia[8]. Some herbs (e.g., chamomile) may increase the effects of anticoagulant medications, which can increase the risk of bleeding. Other herbs (e.g., goldenseal) may act in the opposite way, counteracting the effects of these medications and increasing the risk of blood clots. Eating grapefruit or drinking grapefruit juice while taking herbs may cause more of certain herbs to be absorbed into the body, possibly increasing the risk of adverse side effects[8]. Certain herbs are known to cause problems when taken for long periods of time. For example, echinacea taken every day for more than two months may damage the liver. This risk is increased in patients taking other medications that may cause liver damage[8]. Long-term use of ginseng may cause insomnia and skin rashes[8]. In many cases, no information about the effects of long-term herbal use is available because studies have not been conducted.

Most herbal medicines have not been subjected to rigorous clinical trials. As a result, there remains a dearth of evidence-based information about the efficacy and safety of herbal medications in children. Although the conservative approach is to recommend against use of herbal medicine in children until such evidence is available, some parents are not receptive to this approach[24]. A reasonable approach for childcare providers may be to follow such use closely, assist in herbal therapeutic decisions, and monitor for adverse effects and interactions[24].

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