The research behind natural remedies for herpes simplex

Melissa Peterson, AdvDipHSc(Nat) GradCertEvBdPrac

Cold sores are one of the most common recurrent viral infections in the world, with 20 to 40% of adults infected at some point during their lifetime. The herpes simplex virus type 1 (HSV-1) usually causes cold sores and herpes simplex virus type 2 (HSV-2) causes genital herpes; however, recent data shows that more than 50% of genital herpes is due to HSV-1. The figures vary but it is believed that around 25% of the Australian population have positive antibodies to HSV2; whereas, 80% of adults carry HSV1.

The main prescriptive treatment is the antiviral agent acyclovir, with studies showing improved efficacy when combined with topical corticosteroids. However, there is a major concern for drug resistant viral strains to develop, along with the potential side effects of these pharmaceuticals. Therefore, researchers have evaluated the efficacy of natural alternatives, such as lysine, zinc, Echinacea purpurea (echinacea) and Melissa officinalis (lemon balm).

Research collated in a systematic review, shows Melissa officinalis to be strongly anti-HSV. At low concentrations this herb interacts directly with free particles of acyclovir-resistant and acyclovir-sensitive strains of HSV-1, inhibiting viral attachment to the host cells by over 95%. A 2014 in vitro study provided evidence that rosmarinic acid is the main active constituent responsible for its virucidal effect and significant inhibition of herpes virus attachment.

A well-known treatment for cold sores is the essential amino acid lysine. Numerous clinical trials have shown supplementation reduces HSV symptom severity, infection recurrence and duration. Some of the studies also included a low arginine diet. Arginine is a necessary amino acid for immunomodulation; however, pathogens can interfere with its metabolism and alter host immune responses. HSV requires arginine for its replication. In vitro studies show lysine inhibits the growth promoting effect of arginine on HSV by competing for intestinal absorption, renal reabsorption and cellular transport, and inducing the production of arginase, the enzyme which results in arginine degradation.

Immune health is very important for HSV infections as immunocompromised individuals may experience longer and more severe outbreaks. The benefits of zinc and echinacea in immune modulation are well-known and documented. However, they also have a direct effect on HSV.

Experimental research shows Echinacea purpurea is a very potent virucidal agent, inhibiting HSV-1 replication and reducing infection latency rates. It has also been found to induce arginase in activated macrophages and has a broad spectrum of activity in viral infections, which minimises the development of resistant mutations.

In vitro studies show zinc inhibits HSV-1 and HSV-2 replication, with zinc supplementation reducing infection recurrence and recovery time in a human pilot study. Additionally, salivary zinc levels have been found to be low in both acute and convalescent stages of HSV infection, compared to healthy controls.

References:

1. Arain N, Paravastu SCV, Arain MA. Effectiveness of topical corticosteroids in addition to antiviral therapy in the management of recurrent herpes labialis: A systematic review and meta-analysis. BMC Infect Dis 2015;15:82.