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**FILE: ■ German Chamomile (*Matricaria recutita* syn. *Matricaria chamomilla*)
■ Attention Deficit Hyperactivity Disorder (ADHD)**

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RE: German Chamomile Extract and Essential Oil May Be Beneficial for ADHD Symptoms

Niederhofer H. Observational study: *Matricaria chamomilla* may improve some symptoms of attention-deficit hyperactivity disorder. *Phytomed.* Apr 2009;16(4):284-286.

This small observational study examines the effect of German chamomile (*Matricaria recutita* syn. *Matricaria chamomilla*) on target behaviors of 2 teenagers diagnosed with attention deficit hyperactivity disorder (ADHD). This is the first study on the efficacy of German chamomile in the treatment of ADHD.

The patients were 14 to 16-year-old males with an ADHD diagnosis based on a clinical interview and the ADHD Rating Scale. The ADHD Rating Scale is an 18-item scale that measures inattention, hyperactive, and impulsive symptoms. Each symptom is scored on a scale of 0 (never or rarely) to 3 (very often). Further included are 3 scores: inattention and hyperactivity/impulsivity (0-27 points possible for each) and a total score (0-54 points possible). The interview and Youth Self Report were used to exclude anxiety disorder, depression, suicidality, and psychosis. The patients did not have tic symptoms or obsessive-compulsive symptoms as measured by the Yale Global Tic Severity Scale (total tic score > 22) and the Children's Yale-Brown Obsessive Compulsive Scale (total score > 15), respectively. The patient screening included routine laboratory tests, a medical history, and a physical examination. Both patients had suffered from ADHD for at least 6 years and had been taking 20 mg methylphenidate daily. After a 7-day wash-out period, the patients received either a placebo or a German chamomile extract (manufacturer unstated) containing 100 mg levomenol (extract 1:4 with 96% ethanol) and 0.19 mg essential oil 3 times daily for 4 weeks. After 4 weeks, the patients were crossed over to the opposite treatment.

Each child, his parents, and his teachers completed the ADHD Rating Scale. The author compared the averages of the ADHD Rating Scale scores from before and after treatment. Following treatment with German chamomile, the average inattention score dropped from

14 to 9, the average hyperactive/impulsive score dropped from 13 to 7, and the average total score dropped from 27 to 16. The decreases indicate symptom improvement. In contrast, the average scores were similar before and after treatment for the placebo (inattention: 12, hyperactive/impulsive: 13, total score: 25). The patients' Clinical Global Impression of Improvement scores, which compare current symptoms to baseline symptoms, also showed improvement. A blinded physician rated the patients' ADHD symptoms as 2, indicating "much improved" symptoms following the German chamomile treatment. The Connors' Continuous Performance Test (CPT) is a computer-based assessment of visual attention and motor response inhibition. The CPT was performed before and after treatment, and the results indicated no significant improvements following treatment with German chamomile. The author comments, "This observation might be due to the fact that the improvement of this single case observation was not strong enough to change the CPT score." The primary clinician used a modified version of the Systematic Assessment for Treatment of Emergent Events to assess adverse effects. There were no serious adverse side effects, nor were there any significant changes in cardiac conduction, blood pressure, weight, or laboratory test results. One patient complained of brief mild sedation.

This study "raises questions about the utility of combining *Matricaria chamomilla* with a stimulant. In patients with ADHD, this combination might permit lower doses of the stimulant." The author also notes that German chamomile may prevent tics. Placebo-controlled, randomized clinical trials with larger samples of patients are needed to confirm the potential benefits of German chamomile monotherapy in ADHD patients.

—*Marissa Oppel, MS*

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