

### Systematic Review

Citation	Design/Method Sample/Setting	Variables and Intervention	Outcome Measures	Results/Analysis	Limitations	Quality and Nursing Implications
Li, H., & Liu, H. (2023). The influence of Chinese herbal medicines on cancer-related pressure ulcer wound, fatigue, constipation, and anorexia: A meta-analysis. <i>International Wound Journal</i> , 20(1), 28–37. <a href="https://doi.org/10.1111/iwj.13833">https://doi.org/10.1111/iwj.13833</a>	<p><b>Design:</b> Systematic review and meta-analysis</p> <p><b>Method:</b> Search of Embase®, PubMed®, Cochrane, Ovid®, and China National Knowledge Infrastructure databases was conducted for randomized controlled trials, prospective and retrospective studies of patients with cancer-related symptoms using Chinese herbal medicines compared to control. Dual reviewers were used for screening and extraction. Risk of bias assessment was applied.</p> <p><b>Sample:</b> 25 studies with 1,777 patients were represented in meta-analysis. However, only 2 studies with total n = 52 addressed the anorexia outcome.</p>	<p><b>Independent Variable(s):</b> Chinese herbal medicines</p> <p><b>Dependent Variable(s):</b> Anorexia</p> <p><b>Intervention:</b> Chinese herbal medicine in the form of “herbal drinks”</p>	How the outcome of anorexia was measured in these studies is not defined.	Chinese herbal drinks had no significant effect on treating anorexia (odds ratio = 1.69, 95% CI [0.61, 4.66], p = 0.31) compared to control in participants with cancer-related symptoms.	<p>Low sample size in included studies addressing anorexia</p> <p>Only 2 studies out of 25 evaluated anorexia</p> <p>No definitive treatment defined; just “herbal drinks”</p> <p>Participant demographics were not provided beyond numbers in each study.</p>	<p>The meta-analysis was well done, but the data for anorexia is lacking. Hard to tell whether they can be applied across other settings without more information available on research cohorts.</p> <p>Nurses can counsel patient on current evidence related to Chinese herbal medicine and insignificant effect on anorexia symptoms.</p>

## General Evidence

Citation	Design/Method Sample/Setting	Variables and Intervention	Outcome Measures	Results/Analysis	Limitations	Quality and Nursing Implications
<p>Famil-Dardashti, A., Hajigholami, A., Badri, S., Yegdaneh, A., &amp; Moghaddas, A. (2020). The role of trigonella, cichorium, and foeniculum herbal combination in the treatment of cancer-induced anorexia/cachexia: A quasi-experimental study. <i>International Journal of Cancer Management</i>, 13(8), e102515. <a href="https://doi.org/10.5812/ijcm.102515">https://doi.org/10.5812/ijcm.102515</a></p>	<p><b>Design:</b> Double-blind RCT</p> <p><b>Method:</b> Participants were randomized to herbal supplements with trigonella, cichorium, and foeniculum plus megestrol compared to placebo.</p> <p><b>Sample:</b> 47 adult patients with advanced cancer (22 placebo, 25 in herbal group) Mean age was 61.1 years (SD = 13.7) for placebo and 60.6 years (SD = 11.9) for intervention group. Intervention group was 64% male and 36% female; control group was 59% male and 41% female.</p> <p><b>Setting:</b> Outpatient hematology-oncology care settings in Iran</p>	<p><b>Independent Variable(s):</b> Herbal combination supplement containing trigonella, cichorium, and foeniculum plus megestrol</p> <p><b>Dependent Variable(s):</b> Anorexia/cachexia</p> <p><b>Intervention:</b> Herbal supplement three times daily plus megestrol 160 mg/day compared with placebo plus megestrol at same dosage for 8 weeks.</p>	<p>QOL: European Organisation for Research and Treatment of Cancer QOL Questionnaire—Core 30 (EORTC QLQ-C30) Iranian language, version</p> <p>FAACT scale</p> <p>Anthropometric measures (weight, body mass index)</p> <p>ESAS, a 9-question instrument measuring symptom severity, with scores ranging from 0 (absence of symptom) to 10 (worst severity of symptom)</p> <p>Common Terminology Criteria for Adverse Events (CTCAE)</p>	<p>ESAS scores showed significant improvement in six indices for the herbal combination compared to placebo:</p> <p>Lack of appetite: baseline (4.9, SD = 0.6) to 8 weeks (3.9, SD = 0.5, <math>p &lt; 0.009</math>)</p> <p>Pain: <math>p &lt; 0.009</math></p> <p>Anxiety: <math>p &lt; 0.001</math></p> <p>Malaise: <math>p &lt; 0.02</math></p> <p>Drowsiness: <math>p &lt; 0.005</math></p> <p>Dyspnea: <math>p &lt; 0.02</math></p> <p>Anthropometric values showed significant increase in the herbal group versus placebo, with weight gain of 1.5 kg in the herbal group versus a weight loss of 0.5 kg in the placebo group (<math>p &lt; 0.001</math>).</p> <p>Mean FAACT and QOL scores were higher in the herbal group than the placebo group after 8 weeks, but these findings were not statistically significant.</p>	<p>Small sample size</p> <p>Limited duration for outcomes (8 weeks)</p> <p>Attrition: Sample size was originally 67 patients (29 for the herbal group and 38 for the placebo group); of these, 22 of 29 patients in the herbal group completed trial with outcomes analyzed at the 8-week follow-up point, and 25 patients of 38 in the placebo group were analyzed at the 8-week follow-up point</p> <p>It is not clear what phase of cancer treatment the participants were in at the time of this study, only that the participants had advanced malignancy.</p> <p>Another potential confounder of the study is the type of diet the patients consumed prior to and during their cancer treatment, and whether commercial formula supplements (oral or enteral) were used.</p>	<p>Study methods and findings were reported with validity. Limitations in findings were because of the small sample size and short follow-up period. Additional studies are needed for extended durations to validate findings and confirm or refute improvements in QOL in herbal supplement groups.</p> <p>It is not clear whether this herbal combination preparation would be useful alone rather than as an adjunctive therapy for cancer-induced anorexia/cachexia.</p> <p>The aim of this study was to investigate a nonpharmaceutical treatment (oral combination of trigonella, cichorium, and foeniculum) to complement a known pharmaceutical strategy (oral megestrol) in managing cancer-induced anorexia/cachexia in patients with advanced cancer. Although the study found an increase in weight and appetite in the experimental group compared to placebo group, results are interpreted in light of some important confounders. First, it was not made clear whether the patients studied were undergoing chemotherapy, radiation therapy, immunotherapy, or any therapy at all at the time they were studied. Additionally, the majority of cancers studied were gastrointestinal and solid tumors, potentially limiting applicability to other cancer types.</p>

<p>Sun, L.L., Lai, H.Z., Chen, Z.Z., Zhu, X.S., &amp; Lin, L.Z. (2020). Modified Liujunzi decoction alleviates chemotherapy-induced anorexia in advanced non-small cell lung cancer: A propensity score matched case-control study. <i>Chinese Journal of Integrative Medicine</i>, 26(4), 256–262. <a href="https://doi.org/10.1007/s11655-020-3185-5">https://doi.org/10.1007/s11655-020-3185-5</a></p>	<p><b>Design:</b> Prospective, propensity score matched, controlled trial</p> <p><b>Method:</b> Liujunzi herbal formulation of 11 herbs versus standard-of-care control ingested twice daily with anorexia symptoms and weight measured. Control group received standard-of-care cisplatin-based chemotherapy.</p> <p><b>Sample:</b> 156 adult patients with non-small cell lung cancer (NSCLC) undergoing treatment with chemotherapy</p> <p><b>Setting:</b> Guangzhou University of Traditional Chinese Medicine First Affiliated Hospital, China</p>	<p><b>Independent Variable(s):</b> Liujunzi decoction</p> <p><b>Dependent Variable(s):</b> Chemotherapy-induced anorexia</p> <p><b>Intervention:</b> 11 herbs were boiled together and taken orally twice per day compared to standard-of-care control group. Baseline and weekly assessments on weight, symptoms, and AEs were performed</p>	<p>Chinese Cancer Symptom Scale (appetite)</p> <p>Response Evaluation Criteria in Solid Tumors, version 1.1</p> <p>CTCAE, version 4.02</p> <p>AEs: anemia, leucopenia, neutropenia, thrombocytopenia, liver damage, renal damage</p>	<p>Anorexia significantly improved in the Liujunzi group (48.6%) compared to the control group (28.3%), and mean anorexia score was reduced in the Liujunzi group by 0.05 (SD = 0.016) (<math>p = 0.002</math>).</p> <p>Mean weight reduced over time in the control group (–2.36 kg, SD = 2.53) compared to the Liujunzi group (–0.62 kg, SD = 3.89) (<math>p &lt; 0.01</math>).</p> <p>There was no significant difference in overall response rate and stable disease rate between the two groups.</p> <p>There was no significant difference between the two groups in AEs. Patients in the Liujunzi group had a low incidence of leucopenia, and particularly experienced less incidence of severe leucopenia (<math>p &lt; 0.01</math>).</p>	<p>No randomization</p> <p>Use of other appetite stimulants by participants was not recorded.</p> <p>The study does not appear to be blinded.</p> <p>Reproducing the 11-herb treatment may be difficult.</p>	<p>Methodology was adequate, but this may best be considered a pilot study.</p> <p>The study does not appear to be blinded.</p> <p>Findings may not be generalizable outside of NSCLC.</p> <p>Anorexia occurs in a large portion of patients with cancer receiving chemotherapy. Use of traditional interventions (e.g., corticosteroids) has shown modest improvement and carries a risk of undesirable side effects. Many patients seek out non-traditional therapies such as herbal supplements. This study demonstrated some relief from anorexia with treatment using a medicinal liquid containing 11 Chinese herbs ingested while undergoing chemotherapy for advanced NSCLC. More studies are warranted.</p>
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<p>Yaghobi, N., Mehrzad, V., Badri, S., Yegdaneh, A., &amp; Moghaddas, A. (2021). Combination of traditional herbal medicine for the treatment of cancer-induced anorexia/cachexia: A pilot, randomized, double-blinded and placebo-controlled clinical trial. <i>Journal of Herbal Medicine, 29</i>, 100499. <a href="https://doi.org/10.1016/j.hermed.2021.100499">https://doi.org/10.1016/j.hermed.2021.100499</a></p>	<p><b>Design:</b> A pilot, double-blinded and placebo-controlled randomized clinical trial (RCT)</p> <p><b>Method:</b> Patients were randomly assigned to receive either a sachet of herbal combination or placebo 3 times daily for 4 weeks by mouth.</p> <p><b>Sample:</b> 55 adult patients with advanced solid tumors (stage III–IV) in active treatment (chemotherapy, radiation therapy, or combination), also being treated for cachexia with megestrol in high dose.</p> <p><b>Setting:</b> Home-based treatment; patients were recruited from Omid Hospital in Isfahan, Iran</p>	<p><b>Independent Variable(s):</b> Herbal medicine combination</p> <p><b>Dependent Variable(s):</b> Weight gain, quality of life (QOL)</p> <p><b>Intervention:</b> Herbal combination: Cichorium intybus, Trigonella foenum graecum, Daucus Carotta, Hordeum vulgare, Foeniculum vulgare, soya beans, peas</p>	<p>Oncology Group (ECOG) performance status</p> <p>Anthropometric indices: triceps skinfold thickness, mid-arm muscle circumference, grip strength.</p> <p>Symptom assessments of pain, tiredness, nausea, depression, anxiety, drowsiness, anorexia, well-being, and shortness of breath</p> <p>QOL: Functional Assessment of Anorexia-Cachexia Therapy (FAACT)</p> <p>Adverse event (AE) monitoring</p> <p>Edmonton Symptom Assessment Scale (ESAS), a 9-question instrument measuring symptom severity, with scores ranging from 0 (absence of symptom) to 10 (worst severity of symptom)</p>	<p>Patients in the intervention group gained a mean weight of 0.9 kg, and those in the placebo group lost approximately 0.53 kg. Weight changes were significantly different from baseline in either group (<math>p \leq 0.001</math>).</p> <p>The ESAS results showed a significant change in two indices, lack of appetite (<math>p &lt; 0.001</math>) and fatigue (<math>p = 0.008</math>) after four weeks in the intervention group compared to baseline.</p> <p>The remaining measures were not statistically significant, and there were no serious AEs.</p>	<p>Because of suboptimal sample size, the study was terminated and conducted as a pilot study.</p> <p>Duration of follow-up was a limiting factor to analyze true effect.</p>	<p>The methodology was sound, and statistical analysis was appropriate.</p> <p>Compounding herbal ingredients may be difficult to reproduce.</p> <p>Effective treatment for anorexia remains limited, and the addition of complementary therapies may offer some benefit. This study showed some improvement in appetite and weight when combining megestrol and a combination of natural/herbal agents (commonly known as fennel, fenugreek, chicory, carrot, soybean, barley, and green peas). Further studies would be needed to adopt this approach into clinical practice along with a standardized method for compounding the agents.</p>
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## General Evidence: Multiple Interventions

Citation	Design/Method	Sample/Setting	Significant Findings	Limitations	Quality of Evidence/ Worth to Practice	Nursing Implications
Zhang, F., Shen, A., Jin, Y., & Qiang, W. (2018). The management strategies of cancer-associated anorexia: A critical appraisal of systematic reviews. <i>BMC Complementary and Alternative Medicine</i> , 18(1), 236. <a href="https://doi.org/10.1186/s12906-018-2304-8">https://doi.org/10.1186/s12906-018-2304-8</a>	Critical appraisal of systematic reviews for cancer-related anorexia. Search of PubMed®, Embase®, Cochrane, CINAHL®, JBI®, and China National Knowledge Infrastructure through 2017 was conducted for studies on adult patients with cancer experiencing anorexia symptoms with pharmacologic and nonpharmacologic interventions that included at least 2 studies with systematic review and meta-analysis. R-AMSTAR checklist was used for quality scoring.	8 systematic reviews and meta-analyses were retained and deemed high quality, representing 108 studies. Participants were receiving active anticancer treatment.	All the interventions highlighted—acupuncture; Chinese herbal medicine; eicosapentaenoic acid; oral nutritional interventions including vitamins, minerals, proteins, and other supplements; anamorelin; megestrol acetate; and thalidomide—showed weak results in the systematic reviews appraised. Additional research needs to be conducted to determine the utility of these interventions in treating cancer-related anorexia.	Study limitations: A small number of systematic reviews were included; unable to determine sample size, but of the few reported, most sample sizes were less than 200.  Significant findings: All interventions evaluated in the study require additional research to determine their utility in addressing cancer-related anorexia.	The method to critically appraise the systematic reviews included seems sound; however, the results for each intervention are not consistently reported and lack details such as sample size, effect size, and statistical significance.	More research needs to be conducted to evaluate the utility of the following interventions for treating cancer-related anorexia: <ul style="list-style-type: none"> <li>• acupuncture</li> <li>• Chinese herbal medicine</li> <li>• eicosapentaenoic acid</li> <li>• oral nutritional interventions, including vitamins, minerals, proteins, and other supplements</li> <li>• anamorelin</li> <li>• megestrol acetate</li> <li>• thalidomide</li> </ul>