

Exploring the Impact of Herbal Supplements on Cardiovascular Health: A Comprehensive Literature Review

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Introduction

Cardiovascular diseases (CVDs) remain a leading cause of global morbidity and mortality, prompting the search for effective strategies to manage and improve cardiovascular health. Herbal supplements have garnered significant interest due to their potential therapeutic benefits and widespread accessibility. These supplements, derived from various plants and herbs, are believed to offer supportive effects in managing cardiovascular risk factors such as blood pressure, cholesterol levels and overall heart function. This review aims to explore the impact of herbal supplements on cardiovascular health by evaluating existing clinical and observational studies. By summarizing current evidence, this review seeks to identify which herbal supplements may be beneficial for cardiovascular health and highlight areas requiring further research [1].

Description

Search strategy: A systematic search was conducted in PubMed, Cochrane Library and Scopus databases for studies published up to June 2024. Keywords included "herbal supplements," "cardiovascular health," "blood pressure," "cholesterol," "heart disease," and related terms. Reference lists of relevant articles were also reviewed for additional studies [2].

Inclusion criteria: Studies were included if they were clinical trials, observational studies, or meta-analyses evaluating the effects of herbal supplements on cardiovascular outcomes in adults. Outcomes of interest included blood pressure, lipid profiles, heart failure symptoms and overall cardiovascular risk [3].

Data extraction: Data were extracted on study design, participant demographics, types of herbal supplements used, dosage, intervention duration and cardiovascular outcomes. The quality of studies was assessed based on methodological rigor, sample size and risk of bias [4].

Qualitative synthesis: A qualitative synthesis was performed to summarize the findings from the included studies. The results were categorized based on the type of herbal supplement and its effects on specific cardiovascular outcomes [5].

A total of 45 studies were included in the review. The findings are summarized as follows:

- **Garlic:** Multiple studies reported that garlic supplements significantly reduced blood pressure and improved symptoms of heart failure. Garlic's active compounds, such as allicin, were credited with these effects through mechanisms involving vasodilation and anti-

inflammatory properties.

- **Hawthorn:** Evidence suggests that hawthorn extract is effective in reducing blood pressure and alleviating symptoms of heart failure. Hawthorn's role in improving cardiac function and reducing symptoms has been well-documented, with studies indicating improvements in exercise tolerance and quality of life.
- **Ginseng:** Ginseng showed potential benefits in improving lipid profiles and enhancing overall cardiovascular health. However, results were mixed, with some studies reporting positive effects on cholesterol levels and others showing negligible impact.
- **Ginger:** Ginger demonstrated modest effects on inflammation and cholesterol levels. Although some studies indicated potential benefits in reducing LDL cholesterol and improving overall cardiovascular health, more research is needed to establish these effects.
- **Turmeric:** Turmeric, particularly its active compound curcumin, exhibited anti-inflammatory and cholesterol-lowering properties. While some studies reported positive effects on cardiovascular risk factors, the overall evidence is still emerging and requires further validation.

The review highlights that certain herbal supplements, particularly garlic and hawthorn, have demonstrated consistent benefits in managing cardiovascular health, particularly in reducing blood pressure and improving symptoms of heart failure. Ginseng, ginger and turmeric also show potential but require more robust evidence to confirm their effectiveness and determine appropriate dosages.

Variability in study quality and methodological approaches underscores the need for more rigorous and well-designed clinical trials. Future research should focus on large-scale, high-quality studies to better understand the mechanisms of action, optimal dosages and long-term safety of these herbal supplements.

Conclusion

Herbal supplements such as garlic and hawthorn offer promising benefits for cardiovascular health, with evidence supporting their role in managing blood pressure and heart failure symptoms. Ginseng, ginger and turmeric also show potential but require further investigation. Integrating herbal supplements into cardiovascular care should be approached with caution, considering the current evidence and individual patient needs. Continued research is essential to validate these findings and optimize the use of herbal supplements in cardiovascular health management.

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Conflict of Interest

There are no conflicts of interest by author.

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