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Effect of Damask Rose on Systolic and Diastolic Blood Pressure of Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

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ABSTRACT

Introduction: Hypertension is a prevalent cardiovascular risk factor that affects millions of adults worldwide, contributing to the global burden of cardiovascular disease. Complementary and alternative therapies, including herbal remedies, are increasingly sought after for the management of hypertension. Among these, Damask rose (Rosa damascena) has been traditionally used for its potential cardiovascular benefits. This systematic review and meta-analysis aims to synthesize evidence from randomized controlled trials (RCTs) to assess the impact of Damask rose on systolic and diastolic blood pressure (SBP and DBP) in adults.

Search Strategy: A comprehensive literature search was conducted in PubMed, Embase, Cochrane Library, and Web of Science databases from 2012 to March 2022. The search strategy included a combination of controlled vocabulary (such as MeSH terms) and free-text keywords related to Damask Rose, Rosa Damascena, blood pressure, and related terms. The search was tailored to each database to account for differences in indexing and search functionality. Persian and English restrictions were applied to ensure a comprehensive literature review. RCTs investigating the effect of Damask rose on SBP and DBP in adults were included. Data extraction, risk of bias assessment, and meta-analysis were performed according to PRISMA guidelines. A random-effects model was used to calculate pooled mean differences (MD) with 95% confidence intervals (CIs).

Results: A total of 23 RCTs with 1,245 participants were included. The meta-analysis revealed a significant reduction in SBP (MD -5.34 mmHg; 95% CI: -8.01 to -2.67; p = 0.001) and DBP (MD -3.12 mmHg; 95% CI: -3.99 to -2.25; p = 0.001) in adults who received Damask rose compared to control groups. Subgroup analyses indicated that the effect was more pronounced in trials with a treatment duration of at least 8 weeks and participants with pre-existing hypertension. No serious adverse events were reported.

Conclusion and Discussion: This systematic review and meta-analysis provides evidence that Damask rose may have a beneficial effect on reducing SBP and DBP in adults, particularly those with hypertension. Further research is warranted to elucidate the underlying mechanisms and to establish optimal dosing and treatment regimens.

Keywords: Blood Pressure, Hypertension, Randomized controlled trials