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The beneficial effects of *Ganoderma lucidum* on cardiovascular and metabolic disease risk

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Abstract

Context: Various herbal medicines are thought to be useful in the management of cardiometabolic disease and its risk factors. *Ganoderma lucidum* (Curtis) P. Karst. (Ganodermataceae), also known as Lingzhi, has received considerable attention for various indications, including some related to the prevention and treatment of cardiovascular and metabolic disease by ameliorating major cardiovascular risk factors.

Objective: This review focuses on the major studies of the whole plant, plant extract, and specific active compounds isolated from *G. lucidum* in relation to the main risk factors for cardiometabolic disease.

Methods: References from major databases including PubMed, Web of Science, and Google Scholar were compiled. The search terms used were *Ganoderma lucidum*, Lingzhi, Reishi, cardiovascular, hypoglycaemic, diabetes, dyslipidaemia, antihypertensive, and anti-inflammatory.

Results: A number of *in vitro* studies and *in vivo* animal models have found that *G. lucidum* possesses antioxidative, antihypertensive, hypoglycaemic, lipid-lowering, and anti-inflammatory properties, but the health benefits in clinical trials are inconsistent. Among these potential health benefits, the most compelling evidence thus far is its hypoglycaemic effects in patients with type 2 diabetes or hyperglycaemia.

Conclusions: The inconsistent evidence about the potential health benefits of *G. lucidum* is possibly because of the use of different *Ganoderma* formulations and different study populations. Further large controlled clinical studies are therefore needed to clarify the potential benefits of *G. lucidum* preparations standardised by known active components in the prevention and treatment of cardiometabolic disease.

Keywords: Antihypertensive; Lingzhi; Reishi; antioxidant; dyslipidaemia; hypoglycaemic.

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Figures

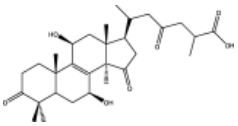

Figure 1. Chemical structure of ganoderic acid...

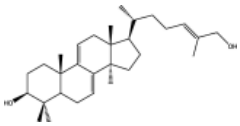

Figure 2. Chemical structure of ganoderol B....

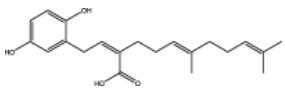

Figure 3. Chemical structure of ganomycin B....

Figure 4. Potential mechanisms for cardiovascular disease...

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