**RESEARCH ARTICLE**

Title: Exploring the Mechanism of Eczema Action of Jinhuang Gao Based on Network Pharmacology and Molecular Docking

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| **A R T I C L E H I S T O R Y** |
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**Keywords:** Mechanism; Eczema Action; Jinhuang; Network; Pharmacology; Molecular Docking

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1. Introduction

Eczema is a kind of allergic inflammatory reactive skin disease mainly characterized by polymorphic skin damage with an obvious oozing tendency, corresponding to the category of wet sores in Chinese medicine. Eczema lesions are often symmetrically distributed, accompanied by intense itching, recurrent and chronic, seriously affecting the quality of life of patients [1]. At present, Chinese medicine treatment mostly adopts the principles of clearing heat, strengthening the spleen, resolving dampness and activating. The clinical efficacy is very remarkable [2], with the advantages of multi-target, multi-level, small adverse reactions and low recurrence rate. The external treatment method of Chinese medicine has a long history, the origin can be traced back to the Han Dynasty "Huangdi Neijing", the Qing Dynasty Wu Shiji [3] carried out a systematic collation and theoretical discussion of external treatment prescriptions and medicines, and perfected the theory of external treatment, proposing that "the theory of external treatment is also the theory of internal treatment". With the development of medicine, many kinds of external treatment methods (wet compresses, medicated baths, etc.) and external treatment agents (gels, oils, ointments, creams, etc.) have become an effective way of treating dermatologic diseases in Traditional Chinese Medicine (TCM). Eczema is located in the skin, and the external treatment of traditional Chinese medicine is applied on the body surface, so the doctor can observe the patient's adaptation and tolerance at any time, and the medication is relatively safe. Gels, ointments, and creams are commonly used in the chronic phase of eczema and have obvious advantages in eczema treatment. Jinhuang Gao is a homemade topical medicine for eczema made by Zunyi Hospital of Traditional Chinese Medicine, which has the effect of clearing heat and removing dampness, dispelling wind and relieving itching. Current research shows that Jinhuang Gao can significantly improve the symptoms of eczema patients' skin lesions and itching symptoms, and the recurrence rate is low [4]. However, due to a lack of the mechanism’s elucidation of Jinhuang Gao in treating eczema based on the holistic concept of traditional Chinese medicine, the promotion and application of Jinhuang Gao have been greatly hindered in the clinical process. By integrating a large number of network database resources and utilizing bioinformatics technology, network pharmacology constructs the overall network relationship of drug-target-disease, to elucidate the regulatory mechanism of multi-pathway and multi-target treatment of disease by drugs from the micro to the macro level, which is in line with the holistic concept of TCM. In this study, we screened the active ingredients and targets of Jinhuang Gao for the treatment of eczema through network pharmacology and molecular docking, established a relevant network, analyzed the material basis and mechanism of action of Jinhuang Gao for the treatment of eczema, and provided references and bases for subsequent experimental studies and clinical applications.

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