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### DVV Findings

Provide Cover page, content page and first page of Drug Delivery Technology Chapter 9: Case Study: Indian Herbal Bioenhancers, Ayurvedic Remedies for the Disease of Microbial Origin Chapter 6: Ayurvedic Remedies for Tinea Infections, A Textbook of Human Anatomy and Physiology I with ISBN numbers, title, author, Department/ School/ Division/ Centre/ Unit/ Cell, name, and year of publication.

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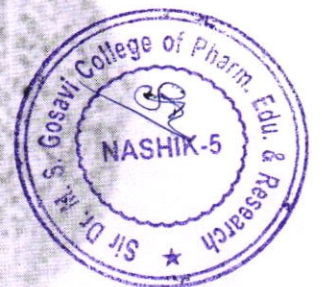
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# DRUG DELIVERY TECHNOLOGY

HERBAL BIOENHANCERS IN PHARMACEUTICALS

Edited by *Prashant L. Pingale*

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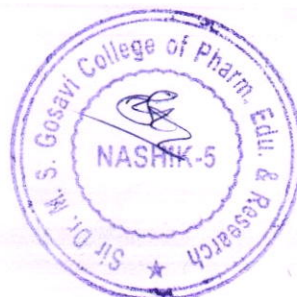
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# Drug Delivery Technology

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Herbal Bioenhancers in Pharmaceuticals

Edited by

Prashant L. Pingale

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Dattatraya M. Shinkar, Sunil V. Amrutkar, Prashant L. Pingale

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Dattatraya M. Shinkar, Sunil V. Amrutkar, Prashant L. Pingale

## Chapter 9

### Case study: Indian herbal bioenhancers

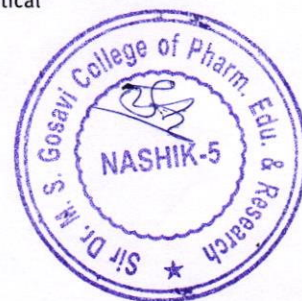
**Abstract:** Herbal bioenhancers have a herbal origin, and the concept of herbal bioenhancer is mentioned in Ayurveda as “Yogvahi,” which acts as a “carrier” for the macromolecules of bulk drugs to transport them to the site of action, without changing their inherent properties, while also being a catalyst to increase the rate of a chemical reaction, without undergoing any change during the process. Yogvahi is used to increase the effect of drugs given orally by increasing their bioavailability, decreasing side effects, and avoiding the parenteral route of drug administration. Herbal medicines have been used and accepted worldwide because of their good therapeutic benefits and lesser toxic effects than modern medicines. In developing countries like India, the major concern for formulation scientists is the overall treatment cost of formulations, so it becomes necessary to develop a modern system of medicine by systematic innovative means that can help reduce the treatment cost, by using natural bioenhancers. In India, in identifying a new compound, a key contribution in the drug development and discovery process was made by Ayurveda. Recent development in bioavailability augmentation of many medicines by herbal bioenhancers has been an innovation in use of drugs in the treatment of many diseases. The world’s first bioavailability enhancer, piperine, was discovered and authorized by scientists at the Indian Institute of Integrative Medicine, Jammu, in 1979. Bioavailability and bio efficacy of many drugs like antineoplastic agents, antihypertensive, antiviral, antitubercular, and antifungal were increased at low doses by the use of herbal bioenhancers. They enhanced the oral absorption and bioavailability of a few herbal and essential nutraceutical compounds. Piperine, ginger, garlic, stevia, ghee, and cow distillate urine, etc. are used as herbal bioenhancers in the preparation of medicines. Nowadays, with the advancement in technology, herbal bioenhancers are a new approach used in the development of modern system of drug delivery systems to improve the bioavailability of many drugs. Herbal bioenhancers are economical, safe, easily available, decrease drug toxicity, lower drug resistance problems, and reduce the treatment period in therapy. This chapter presents a detailed study about various aspects of Indian herbal bioenhancers, collects information of all herbal bioenhancers with their mechanism of action and studies conducted on them to improve the drug bioavailability.

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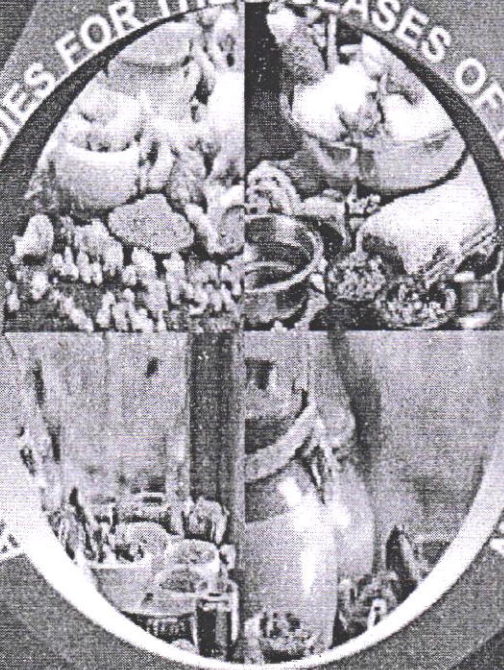
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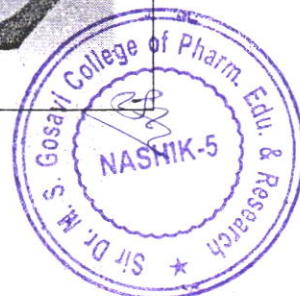
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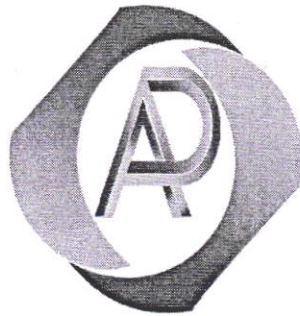
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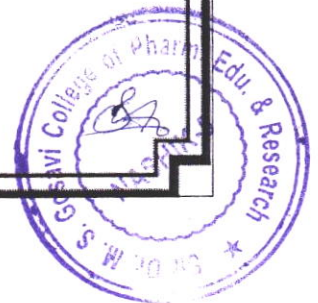


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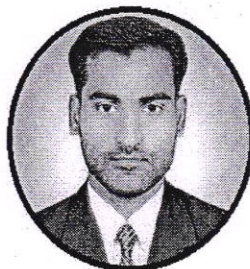


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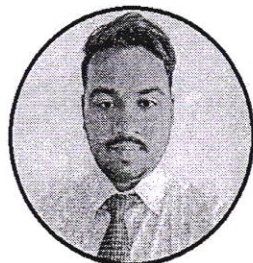


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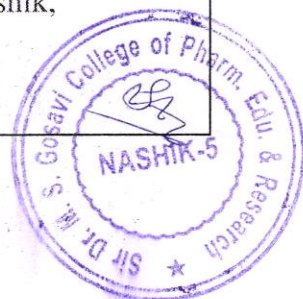
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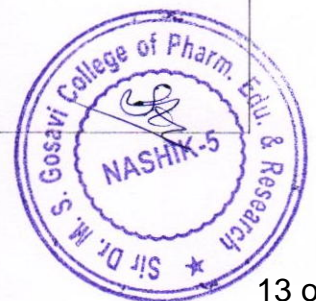
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## AYURVEDIC REMEDIES FOR TINEA INFECTIONS



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### ABSTRACT

Dermatophytosis is a fungal infection that is frequent and seen all over the world. Because its fungal agents are widely dispersed in the atmosphere, it can affect people of all ages. This dermatophytic illness has been divided into several subtypes, all of which have their origins in Tinea, often known as ringworm. This infection, if not treated with proper care, can become fatal or life-threatening. As a result, in addition to allopathy, Ayurveda treatment should be used because it has fewer side effects and a higher cure rate. As a result, when treating tinea infections, it's important to double-check the allopathy prescription warnings. Many herbs in Ayurveda, such as Cakramarda, Karanja, Rasona, Haridra, and others, have antifungal action and have been clinically proven to manage and treat Dadru Kustha without side effects. Ayurvedic remedies, together with proper hygiene and a few lifestyle changes, can completely cure tinea. The information on ayurvedic treatment with medicinal herbs and formulations is summarised in this review.

### INTRODUCTION

The skin fungal infection is caused by a variety of fungi, yeast, and dermatophyte. The disease still lacks proper medications provided to the patients due to continuous mutation in those microorganisms. This has affected the treatment of particular information as unmethodical use of antimicrobial drugs has been incorporated. Tinea is a common fungal infection that affects nearly 30%-70% of adults. It causes darkening of the skin, fissures, peeling, red rashes, or sometimes scaly patches. Ringworm is commonly known as ringworm and occurs in Men aged 20-70 years. Different types of tinea have been classified which particularly have a variety of effects on the skin.

### PATHOPHYSIOLOGY OF TINEA INFECTION

Dermatophytes are fungi that infect keratinized tissues and are members of the Trichophyton, Microsporum, and Epidermophyton genera. T. Rubrum is the most frequent pathogen that causes tinea. [5,6]





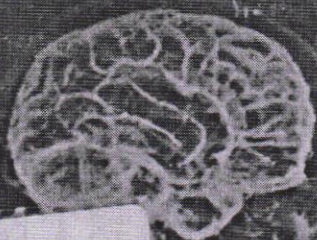
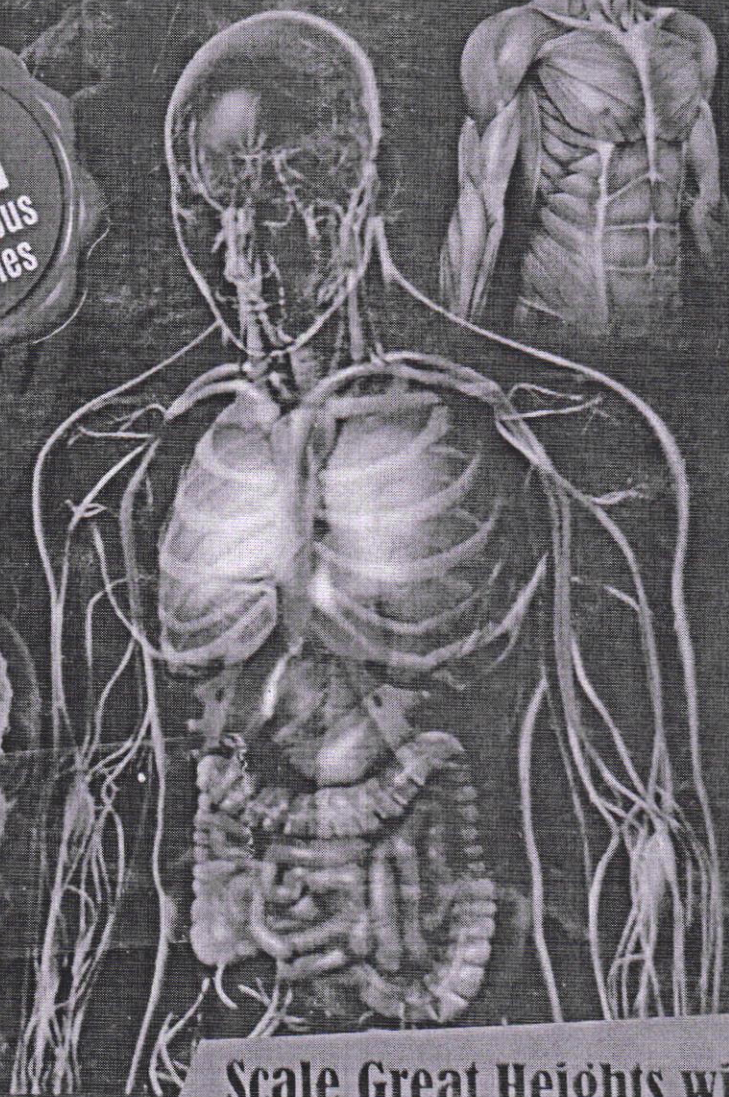
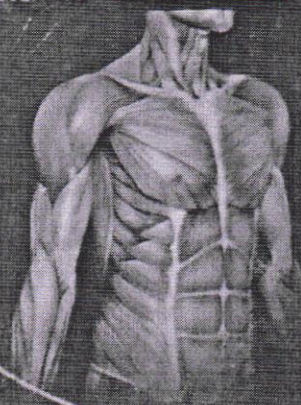
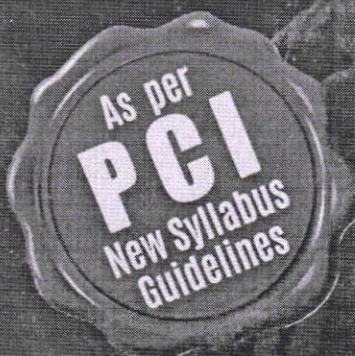


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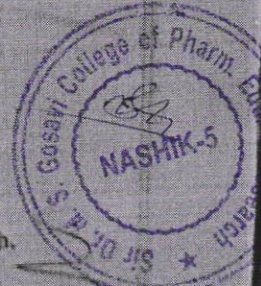
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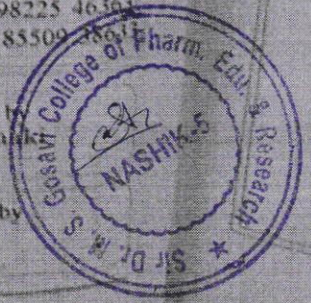
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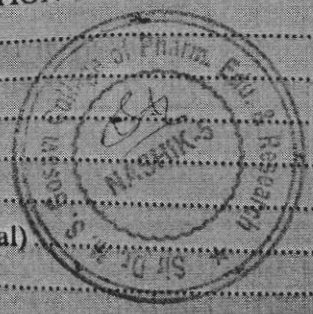
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Anatomy as a whole  
Physiology of the body.  
**SCOPE OF**  
Anatomy understand  
Anatomy anatomical mechanisms