

**A COMPARATIVE PHARMACEUTICO-ANALYTICAL STUDY OF MAJISTHADI  
TAILA IN NOVEL DOSAGESERUM FORM & ITS CELL LINE STUDY****Dr. Surabhi Kadu<sup>\*1</sup>, Dr. Aditya Arvind Samant<sup>2</sup> and Dr. Sudhindra A. N.<sup>3</sup>**<sup>1</sup>First Year MD (Ayu) Scholar, Department of P.G Studies in Rasashastra and Bhaishajya Kalpana.<sup>2</sup>Professor in Department of P.G Studies in Rasashastra and Bhaishajya Kalpana.<sup>3</sup>Professor and Hod Department of P.G Studies in Rasashastra and Bhaishajya Kalpana.**\*Corresponding Author: Dr. Surabhi Kadu**

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**INTRODUCTION**

Ayurveda, an ancient system of medicine rooted in Indian culture, emphasizes holistic healing by maintaining balance between the mind and body. This balance is achieved through the understanding and management of the *doshas* vital energies that govern individual physical and mental characteristics. Ayurvedic treatments are personalized, employing a combination of herbs, diet, and lifestyle modifications to restore harmony and promote overall well-being.

Among the various branches of Ayurveda, Rasashastra and Bhaishajya Kalpana hold significant importance. Rasashastra is the science of alchemy, focusing on the preparation of mineral and herbomineral substances, while Bhaishajya Kalpana is concerned with the formulation of plant-based drugs. These branches have historically provided remedies for a wide range of diseases by combining herbs, minerals, and metals in various formulations.

In this context, *Manjisthadi Taila* a formulation mentioned in the classical Ayurvedic text *Yogaratanakara* is of particular interest.<sup>[1]</sup> Traditionally used in the treatment of skin disorders, particularly *Kushta* (a term encompassing various skin diseases), *Manjisthadi Taila* has not been the subject of extensive pharmaceutical research. Recognizing the need for a more patient-centric and globally accessible formulation, this study aims to explore the conversion of *Manjisthadi Taila* into a novel serum dosage form. By combining the therapeutic efficacy of *Manjisthadi Taila* with the modern conveniences of a serum, this research seeks to create a product that is both effective and easy to use, with the potential for widespread distribution in the global market.

**REVIEW OF LITERATURE**

The traditional formulation of *Manjisthadi Taila* is documented in the *Yogaratanakara*, a classical Ayurvedic text known for its detailed descriptions of treatments for various diseases, including skin disorders. In the context of *Kushta Chikitsa* (treatment of skin diseases), *Yogaratanakara* outlines several formulations, with *Manjisthadi Taila* being particularly noted for its

potential effectiveness. However, despite its historical significance, there has been a noticeable lack of modern pharmaceutical research on this formulation.

The process of *Murcchana* a purification and potentiation technique for oils is described in the *Bhaishajya Ratnavali*, another important Ayurvedic text.<sup>[2]</sup> This process is crucial for enhancing the therapeutic properties of oils like *Sarshapa Taila* (mustard oil), which is used as the base oil in *Manjisthadi Taila*. *Murcchana* involves the addition of specific herbs and a meticulous heating process, which are believed to improve the oil's efficacy and reduce any potential side effects.

In modern cosmetics, the preparation of serums and other emulsified products is well-documented in texts like *Harry's Cosmeticology*.<sup>[3]</sup> This book provides comprehensive guidelines on the formulation of emulsions mixtures of oil and water that form the basis of many skincare products. The ability of emulsions to deliver active ingredients deep into the skin makes them ideal for creating a modern dosage form of *Manjisthadi Taila*.

The gap in the existing literature where traditional formulations like *Manjisthadi Taila* have not been explored in modern dosage forms underscores the importance of this study. By bridging the gap between traditional Ayurvedic medicine and contemporary skincare practices, this research aims to bring the benefits of *Manjisthadi Taila* to a wider audience.

## AIM AND OBJECTIVES

The primary aim of this study is to conduct a comparative pharmaceutico-analytical study of *Manjisthadi Taila* in its traditional oil form and a novel serum dosage form, along with a cell-line study to evaluate their potential therapeutic effects. The specific objectives of the study are as follows:

1. To carry out the *Murcchana* of *Sarshapa Taila*, the base oil used in *Manjisthadi Taila*.
2. To prepare *Manjisthadi Taila* according to traditional Ayurvedic methods.
3. To conduct a comprehensive physico-chemical analysis of *Manjisthadi Taila*.
4. To formulate a serum dosage form of *Manjisthadi Taila* using modern emulsion techniques.
5. To perform a physico-chemical analysis of the serum.
6. To conduct a cell-line study to evaluate the cytotoxicity and therapeutic potential of both *Manjisthadi Taila* and the serum form.

## MATERIALS AND METHODS

The study is meticulously planned and divided into several key phases:

### LITERATURE REVIEW

A thorough literature review is conducted to gather information on *Manjisthadi Taila* and its components. Sources include classical Ayurvedic texts like *Yogaratakara* and *Bhaishajya Ratnavali*, as well as modern references such as *Harry's Cosmeticology*. Peer-reviewed journals, databases, and online resources are also consulted to synthesize the information and provide a comprehensive understanding of the formulation and its potential applications.

**Pharmaceutical Study** The pharmaceutical study involves the preparation of both *Manjisthadi Taila* and its serum form. Raw materials are carefully sourced from authentic suppliers and are subjected to rigorous authentication processes. The preparation of *Manjisthadi Taila* follows the traditional method outlined in *Yogaratakara*, which involves the *Murcchana* of *Sarshapa Taila* as a preliminary step. This process enhances the oil's therapeutic properties and ensures its suitability for use in the formulation.

The serum is prepared using an emulsion technique, where the oil phase (*Manjisthadi Taila*) is combined with water and other stabilizing agents to create a stable, easy-to-apply serum. This modern dosage form is designed to improve the bioavailability of the active ingredients and enhance the product's usability and appeal in the global skincare market.

### Analytical Study

The analytical study is a critical component of this research, providing detailed insights into the properties of both *Manjisthadi Taila* and its serum form. Various physico-chemical parameters are assessed, including<sup>[4,5,6]</sup>:

- **Organoleptic Characters:** These include the color, odor, taste, and texture of the raw materials and final products.
- **Physico-Chemical Parameters:** Parameters such as loss on drying, total ash content, pH, specific gravity, refractive index, saponification value, iodine value, acid value, peroxide value, and rancidity are measured to ensure the quality and stability of the formulations.
- **Instrumental Analysis:** Techniques like High-Performance Thin-Layer Chromatography (HPTLC) are employed to analyze the chemical composition of the formulations and verify the presence of key phytoconstituents.
- **Microbial Contamination:** Tests are conducted to ensure that the formulations are free from harmful microbial contamination, a critical factor for both efficacy and safety in skincare products.
- **Cell-Line Study** The cell-line study focuses on evaluating the cytotoxicity and therapeutic potential of *Manjisthadi Taila* and its serum form. Key assessments include:
- **Cell Viability Assay by MTT:** This assay measures the ability of the formulations to support or inhibit cell growth, providing insights into their potential therapeutic effects.
- **Cytotoxic Evaluation in Neutrophils by Cell Morphology:** This evaluation assesses the impact of the formulations on immune cells, which is particularly relevant for understanding their effects on inflammatory skin conditions.

## RESULTS AND DISCUSSION

The results of the study are interpreted and discussed in detail, with a focus on comparing the traditional oil form of *Manjisthadi Taila* with its novel serum form. The findings from the physico-chemical analysis and cell-line studies are integrated to provide a comprehensive understanding of the efficacy and potential applications of these formulations.

The discussion highlights the relevance of this study in the context of existing literature, emphasizing how the novel serum form of *Manjisthadi Taila* could offer a more convenient and effective treatment for skin diseases like *Kushta*. The integration of traditional Ayurvedic medicine with modern skincare practices is explored, showcasing the potential for innovative treatments that combine the best of both worlds.

## CONCLUSION

This study represents a significant step forward in the field of Ayurvedic medicine and its application in modern skincare. By transforming *Manjisthadi Taila* into a serum form, the research offers a promising solution for managing skin diseases in the contemporary world. The serum's potential for global distribution, combined with its basis in traditional Ayurvedic knowledge, positions it as a unique product in the skincare market.

The findings of this study suggest that the novel serum form of *Manjisthadi Taila* could provide a more patient-friendly and widely accessible treatment option, bridging the gap between ancient wisdom and modern science. As the global demand for natural and effective skincare products continues to grow, this research could pave the way for new innovations in the treatment of skin diseases, offering a holistic approach that honors the principles of Ayurveda while meeting the needs of today's consumer.

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