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Review Article

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"THERAPEUTIC APPLICATIONS OF GHRITA AND TAILA IN SAMHITAS: A COMPREHENSIVE REVIEW"

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ABSTRACT

Introduction: Ghrita (medicated ghee) and Taila (medicated oils) are cornerstone therapeutic agents in Ayurveda, widely used for internal and external administration. Classical texts describe their preparation, pharmacological properties, and clinical applications, emphasizing their role in disease management, rejuvenation, and enhancing bioavailability of herbal drugs. **Methods:** A systematic review of classical Ayurvedic texts (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*) and modern databases (PubMed, Scopus, Web of Science, Google Scholar) was conducted. Keywords included "Ghrita," "Taila," "medicated ghee," "medicated oils," and "Ayurvedic lipid formulations." Studies describing preparation, pharmacology, and clinical efficacy were included; anecdotal or non-peer-reviewed sources were excluded. **Results:** Samhitas detail various Ghrita and Taila formulations, such as Brahmi Ghrita, Mahatikta Ghrita, Dhanwanthari Taila, and Mahanarayana Taila, used for neurological, dermatological, musculoskeletal, and geriatric conditions. Pharmacologically, these lipid-based formulations enhance absorption of active constituents, provide neuroprotection, anti-inflammatory effects, and promote rejuvenation. Modern studies validate antioxidant, cognitive-enhancing, analgesic, and wound-healing properties of selected Ghrita and Taila preparations. **Discussion:** Ghrita and Taila exemplify lipid-based drug delivery in Ayurveda. Despite proven efficacy, challenges include standardization, quality control, and lack of large-scale clinical trials. Modern research using pharmacokinetic and pharmacodynamic studies can provide evidence-based validation and integration into contemporary therapeutics. **Conclusion:** Ghrita and Taila formulations are scientifically rational, clinically relevant, and historically validated therapeutic agents. Evidence-based standardization and integration into modern healthcare can optimize therapeutic outcomes, especially in neurodegenerative, metabolic, and musculoskeletal disorders.

KEYWORDS: Ayurveda, Ghrita, Lipid formulations, Taila, Therapeutics

INTRODUCTION

Ghrita and Taila are foundational lipid-based formulations in Ayurveda, extensively described in Samhitas for preventive, therapeutic, and rejuvenative purposes[1]. Ghrita, prepared with clarified butter, and Taila, prepared with oils, serve as carriers for herbal drugs, enhancing their absorption, potency, and efficacy[2-3]. They are administered internally (*Abhyantar*) or externally (*Bahya*), depending on therapeutic objectives[4].

Classical texts classify Ghrita and Taila based on ingredients, indications, and Dosha-specific applications[5]. They are used in neurological disorders, dermatological conditions, musculoskeletal disorders, chronic inflammatory diseases, and for longevity and immunity enhancement[6-7]. Their lipid base ensures slow release, prolonged action, and enhanced penetration of active principles[8].

Modern pharmacology increasingly validates their clinical significance, revealing antioxidant, neuroprotective, anti-inflammatory, and wound-healing properties. However, gaps in standardization, clinical trials, and pharmacokinetic studies highlight the need for evidence-based evaluation and translational research[9]. To critically review the use of Ghrita and Taila in Samhitas and evaluate their clinical relevance. To summarize classical Ghrita and Taila formulations and their therapeutic indications. To review modern pharmacological and clinical evidence supporting these formulations. To identify challenges and suggest directions for research and evidence-based integration[10].

MATERIALS AND METHODS

Literature Search: [11]

- Classical texts: *Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya* with commentaries.
- Modern databases: PubMed, Scopus, Web of Science, Google Scholar.
- Keywords: "Ghrita," "Taila," "Ayurvedic lipid formulations," "medicated ghee," "medicated oils."

Inclusion Criteria: [12]

- Classical descriptions of Ghrita and Taila formulations.
- Experimental, pharmacological, and clinical studies evaluating lipid-based Ayurvedic formulations.
- Peer-reviewed review articles correlating classical knowledge with modern pharmacology.

Exclusion Criteria: [13]

- Non-peer-reviewed sources, anecdotal reports.
- Studies not related to preparation, pharmacology, or therapeutic application of Ghrita/Taila.

Data Organization: [14-15]

- Organized by lipid base, ingredient type, and therapeutic application.
- Findings summarized under classical description, pharmacological evidence, and clinical relevance.

OBSERVATION AND RESULTS

1. Classical Perspective

- Samhitas detail preparations of Ghrita and Taila with specific herbs for neurological, dermatological, musculoskeletal, and geriatric indications.
- Examples include:
  - **Brahmi Ghrita:** Cognitive enhancement, neuroprotection.
  - **Mahatikta Ghrita:** Detoxification, metabolic regulation.
  - **Dhanwanthari Taila:** Joint and musculoskeletal disorders.
  - **Mahanarayana Taila:** Chronic pain, neurological, and rejuvenative applications.

2. Preparation and Administration

- Ghrita: Butter is clarified and combined with decoctions or extracts of herbs; slow heating ensures infusion without degradation.
- Taila: Oils are combined with decoctions and herbal pastes; heating duration and temperature influence potency.
- Internal (Abhyantar) and external (Bahya) applications tailored to disease, Dosha predominance, and patient constitution.

3. Pharmacological Relevance

- Lipid base enhances solubility and absorption of fat-soluble active constituents.

- Neuroprotective: Brahmi, Ashwagandha in Ghrita enhance cognition.
- Anti-inflammatory and analgesic: Taila formulations reduce musculoskeletal inflammation and pain.
- Antioxidant: Ghrita and Taila provide free radical scavenging, reducing oxidative stress.

4. Clinical Applications

- Neurodegenerative disorders: Memory improvement, cognitive disorders.
- Dermatology: Wound healing, skin rejuvenation, and anti-aging.
- Musculoskeletal disorders: Joint pain, inflammation, and mobility improvement.
- Rejuvenation and immunity enhancement in geriatrics and chronic disease management.

5. Modern Evidence

- Clinical studies confirm Brahmi Ghrita improves cognitive performance in mild cognitive impairment.
- Taila-based massage therapy shows analgesic and anti-inflammatory effects in arthritis.
- Preclinical studies demonstrate antioxidant, neuroprotective, and wound-healing effects of selected Ghrita and Taila formulations.

6. Safety and Standardization

- Classical purification methods (*Shodhana*) minimize toxicity and enhance efficacy.
- Modern standardization includes phytochemical profiling, microbial testing, and stability studies.

Ghrita and Taila exemplify the integration of classical pharmaceutics with modern therapeutic principles, supporting multi-targeted, safe, and effective clinical applications.

DISCUSSION

Ghrita and Taila formulations represent a sophisticated system of lipid-based drug delivery in Ayurveda. Classical texts highlight preparation, ingredient selection, and administration methods to maximize therapeutic efficacy[16].

Modern Correlations: [17]

- Lipid base improves bioavailability of fat-soluble phytochemicals, similar to modern lipid-based drug delivery systems.
- Neuroprotective, anti-inflammatory, antioxidant, and wound-healing properties validated in preclinical and clinical studies.
- Integration with Panchakarma therapies enhances systemic and local therapeutic outcomes.

Advantages: [18]

- Multi-targeted action with minimal adverse effects.
- Suitable for preventive, therapeutic, and rejuvenative purposes.

Challenges: [19]

- Variability in raw materials and preparation methods affects consistency.
- Limited high-quality clinical trials.
- Standardization and bioavailability studies required for broader acceptance.

Future Prospects: [20]

- Translational research to bridge classical knowledge with pharmacokinetics and clinical evidence.
- Standardized, evidence-based Ghrita and Taila formulations for integrative healthcare.
- Development of novel lipid-based therapeutics inspired by classical principles.

Ghrita and Taila are scientifically rational and clinically relevant formulations. Modern validation and standardization can enhance their integration into contemporary therapeutic practice.

CONCLUSION

Ghrita and Taila are cornerstone lipid-based formulations in Ayurveda, described extensively in Samhitas for internal and external therapeutic use. They serve as carriers for bioactive compounds, enhancing bioavailability, stability, and clinical efficacy. Classical formulations such as Brahmi Ghrita, Mahatikta Ghrita, Dhanwanthari Taila, and Mahanarayana Taila demonstrate multi-targeted therapeutic action across neurological, dermatological, musculoskeletal, and geriatric conditions.

Modern studies corroborate their pharmacological properties, including neuroprotection, antioxidant, anti-inflammatory, analgesic, and wound-healing effects. Classical purification and preparation techniques, combined with modern standardization methods, ensure safety and reproducibility.

Despite promising evidence, challenges remain in standardization, clinical validation, and large-scale trials. Future research should focus on translational studies, pharmacokinetic evaluations, and evidence-

based integration into preventive and therapeutic healthcare.

In conclusion, Ghrita and Taila exemplify a historically validated, scientifically rational, and clinically relevant approach in Ayurveda. Their evidence-based application has the potential to optimize patient outcomes, enhance quality of life, and contribute to integrative medicine strategies.

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