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## Review Article

# Project Review on Synthesis of Analgesic, Antioxidant Herbal Medicine

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### ABSTRACT

Ayurveda is a comprehensive approach to health and personalized medicine, often referred to as the science of life. It stands as one of the oldest medical systems, encompassing thousands of medical theories and concepts. Notably, Ayurveda has the potential to address numerous chronic ailments such as cancer, diabetes, arthritis, and asthma, which are often deemed incurable by modern medicine. Unfortunately, the lack of scientific validation for various concepts means that this invaluable heritage from our forebears is currently under-performing. Therefore, there is a pressing need for evidence-based research to foster the global acknowledgment and acceptance of Ayurveda, which requires further innovation in research methodologies. This review underscores the different domains of research, including literary, fundamental, drug, pharmaceutical, and clinical studies in Ayurveda. The review also aims to enhance the research methodology for Ayurveda, placing significant emphasis on fundamental research. This initiative will undoubtedly motivate young researchers to explore diverse research areas for the advancement and promotion of Ayurveda.

### INTRODUCTION

Ayurveda, the ancient Indian system of medicine, is one of the oldest yet still practiced traditions that has a robust philosophical and empirical foundation. It is a comprehensive approach to health that emphasizes personalized medicine and considers the whole person. Recognized as a complete medical system, it encompasses physical, mental, philosophical, ethical, and spiritual well-being.

- In Ayurveda, every cell is viewed as an inherent manifestation of pure intelligence, which is why it is referred to as a self-healing science.
- Additionally, alongside the concept of self-healing, the use of herbal treatments holds significant importance in this traditional Indian medicinal practice.
- Ayurveda prioritizes the preservation of health through lifestyle choices, dietary habits, and the use of herbs.

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**1.Lifestyle:** Ayurveda emphasizes the significance of daily habits and routines that are in sync with natural cycles. It promotes practices like consistent sleep schedules, techniques for managing stress, and exercises that are suited to a person's dosha (body type). By following these routines, individuals can align their internal state with external factors, thus achieving balance and preventing illness.

**2.Diet:** Nutrition serves as a fundamental aspect of Ayurvedic health practices. Ayurveda suggests that food choices should be tailored to an individual's dosha and their current health status. Foods are categorized by their properties, such as heating or cooling effects, and selected to either balance or enhance one's dosha. A well-rounded diet is believed to support the body's natural functions and foster overall vitality.

**3.Herbs:** Herbal treatments play a crucial role in Ayurveda and are utilized to address a variety of ailments by restoring equilibrium to the doshas. Ayurvedic herbs are typically combined to enhance their effects and are chosen based on an individual's unique needs and imbalances. It is believed that these herbs aid in various bodily functions and contribute to detoxification and rejuvenation processes.

- The three fundamental energies are: vata (movement), Pitta (digestion/metabolism), and Kapha (lubrication/structure).

- \* These energies affect our physical, mental, and emotional well-being.

- \* Key role of herbs to maintain dosha balance

- \* Ayurveda literally means "science of life. As ancient Indian health Care System was centralized on that the Human views his disease. It has been pointed a point of the fact that positive health means metabolically healthy balanced human beings. Ayurveda is also called the "science of life span prolongation" because it is comprehensive system and lifelong healthy living.

- \* Provide programs for body rejuvenation like • Enjoyment of the · Superb comfort diet and nutrition. With treatment, it provides ways to cure which occurs through the food you eat, and many common diseases like deep-rooted, have few modern treatments. However, one should be understand that there's no such thing as a cure-all for Ayurvedic nutrition needs to be implemented within the entire system, patient to succeed.

- \* User friendly and very interactive system educational. It teaches the patient to so responsible and self-empowered. Ayurveda is not a system of nutrition for those wanting to flee or reason to do more damage to their body or mind. It is a and a system of liberation long life.

### **I. Herbal Medicine Across Cultures:-**

Herbal therapy and Ayurveda both possess profound origins in human history and cultural traditions across various ethnicities and locales, showcasing varied methodologies for health and healing. Each framework has progressed within its unique cultural backdrop yet has also engaged with and shaped other customs over time. Herbal therapy is a global practice prevalent in nearly every society worldwide. Its principles are grounded in the study of flora and their impacts on human wellness, and it has been essential to traditional healing customs in many communities. In Europe, herbal therapy boasts a lengthy past, with notable personalities like Hippocrates and Galen chronicling the employment of herbs in ancient Greece and Rome. The Chinese have harnessed herbal cures for millennia, with writings such as the "Shennong Bencao Jing" documenting numerous therapeutic plants and their applications. In Africa, indigenous herbal practitioners utilize a diverse assortment of native plants for treating various conditions, often depending on oral histories and regional wisdom handed down through generations. In the Americas, Indigenous tribes have historically employed local flora for medicinal uses, blending herbal expertise with



spiritual rituals. In South America, the Amazon rainforest is famous for its extensive selection of medicinal plants utilized by indigenous communities. Likewise, in India, herbal therapy has been a fundamental aspect of traditional customs and is commonly combined with contemporary medicine.

## **II. Ayurveda And Its Cultural Impact:-**

Originating from ancient India, Ayurveda has not only impacted but has also been shaped by neighboring cultures. This comprehensive medical system significantly influenced health practices throughout the Indian subcontinent and extended its effects to nearby areas such as Nepal, Sri Lanka, and Bhutan.

The principles of Ayurveda spread via trade routes and cultural exchanges, reaching as far as Southeast Asia, where it merged with and adapted to local healing traditions.

## **III. Cross-Cultural Interactions:-**

Both herbal medicines and Ayurvedic practices have shown extraordinary flexibility and endurance, impacting and being shaped by various cultural environments. For instance, Western herbalism has integrated knowledge from Chinese, Indian, and African healing traditions, resulting in a more holistic approach to natural healthcare. On the other hand, Ayurveda has adopted insights from other ancestral systems as well as contemporary scientific studies to refine its methods. These exchanges highlight the global nature of natural therapies and their capacity to traverse cultural frontiers, adapting to various requirements and situations while preserving foundational principles. This mutual enhancement enriches both domains, providing a wider array of treatments and health strategies that embody a diverse spectrum of worldwide healing traditions. Allopathy, often referred to as conventional or Western medicine, holds a crucial position in contemporary healthcare owing to its organized,

evidence-led methodology for diagnosing, treating, and preventing illnesses.

Here are essential points emphasizing its significance:

## **IV. Evidence-Based Practice:-**

Allopathy is grounded in thorough scientific investigation and clinical trials to formulate and authenticate therapies. This evidence-driven methodology guarantees that medical interventions

are both effective and secure. Treatments undergo constant assessment and revision in light of the most recent research discoveries, resulting in enhanced patient outcomes and the progression of medical knowledge.

## **V. Chronic Illness Management:-**

Allopathic medicine is particularly effective in handling chronic illnesses such as diabetes, hypertension, and cardiovascular diseases. It provides a variety of treatment options, including medications, lifestyle changes, and routine monitoring, to control and diminish the influence of chronic conditions. This strategy aids in enhancing patients' quality of life and prolonging their lifespan.

## **VI. Comprehensive Healthcare:-**

Allopathy presents a wide array of medical services, including preventive care, diagnostics, treatment, and rehabilitation. This all-encompassing approach tackles a vast range of health concerns, delivering integrated care that takes various facets of a patient's health into account.

## **VII. Uses Of Allopathy: -**

### **1. Diagnosis and Treatment of Disease:**

\* Allopathic medicine employs a diverse array of diagnostic instruments and assessments to accurately pinpoint diseases. Based on these findings, it utilizes focused treatments, including medications, surgical interventions, and therapies, to tackle specific health concerns.



## 2. Management of chronic Conditions:

\* Chronic health issues such as diabetes, arthritis, and heart diseases are handled with continuous treatments that encompass medications, lifestyle adjustments, and consistent monitoring to regulate symptoms and avert complications.

## 3. Pharmacological Treatments:

\* Allopathic medicine depends on a comprehensive selection of pharmaceutical agents to alleviate symptoms, combat infections, and confront various health challenges. These medications are formulated through thorough research and clinical studies.

## 4. Mental Health Care:

\* Allopathic medicine tackles mental health disorders such as depression, anxiety, and schizophrenia with a combination of psychotherapy, medication, and other therapeutic strategies.

## 5. Cancer Management:

\* Oncology care incorporates various treatments, including chemotherapy, radiation, and targeted therapies. Allopathic medicine offers extensive cancer treatment focused on addressing and managing multiple types of cancer.

## VIII. Origin And Development: -

\* Ayurveda is regarded as a branch of the Atharva Veda.

\* The renowned sage Ved-Vyas documented the extensive knowledge of Ayurveda into a collection of sacred texts referred to as the Vedas.

\* The ancient Vedic sages extracted relevant excerpts from the Vedic scriptures concerning Ayurveda and arranged them into distinct volumes focused solely on the subject.

\* Among these texts, the Atreya Samhita stands out as the oldest medical manuscript in existence.

\* The two primary re-organizers of Ayurveda, whose contributions are still recognized today, are Charak and Sushrut.

## IX. Objectives :-

\* Choosing “Synthesis Of Analgesic, Antioxidant Herbal Medicine” as a project topic can be a fascinating and valuable endeavour.

\* Historical Importance: Herbal medicine has been utilized for centuries within various societies. Delving into its past, customary methods, and progression can yield valuable insights.

\* Herbal treatments are increasingly favoured due to their perceived natural qualities and possible health advantages. Comprehending their formulation contributes to holistic health understanding.

\* In light of rising ecological concerns, researching herbal medicine corresponds with sustainable practise, encompassing the cultivation, harvesting, and conservation of medicinal flora.

\* The objective of herbal medicine is to tap into the healing potential of plants to avert, control, and treat numerous health issues. Essentially, the main aim is to provide organic solutions that can augment or, at times, serve as substitutes for standard pharmaceutical interventions.

\* By harnessing the varied compounds present in plants such as alkaloids, flavonoids, and essential Oils herbal medicine endeavours to tackle an extensive array of health challenges, from chronic illnesses and infections to everyday discomforts.

\* This methodology not only aims at relieving symptoms but also focuses on addressing the root causes, enhancing overall wellness through a more comprehensive approach.

\* Another significant goal of herbal medicine is to bolster and enhance the body's inherent healing mechanisms. Numerous herbal solutions are thought to operate by elevating the immune response, boosting circulation, or fostering detoxification.

\* This assistance can result in greater resilience and vitality, aiding individuals in sustaining better health and potentially diminishing the frequency and severity of ailments.



\* Moreover, the application of herbs often prioritizes prevention, advocating for habits that maintain equilibrium and avert health concerns before they develop. Furthermore, herbal medicine endeavours to sustain and expand upon ancestral wisdom and practices. A multitude of herbal remedies has been employed for centuries across diverse cultures, and their ongoing use highlights their efficacy and cultural value.

\* By fusing traditional knowledge with modern scientific investigation, herbal medicine strives to authenticate and fine-tune these practices, guaranteeing their safety and effectiveness.

This fusion also encourages a wider comprehension of how herbal remedies can be safely and effectively utilized alongside current medical interventions.

\* Lastly, the accessibility and sustainability of herbal medicine stand as vital objectives. Herbal treatments are frequently more economical and obtainable than pharmaceutical medications, especially in areas with limited healthcare facilities.

\* In addition, the cultivation and harvesting of medicinal plants can be carried out in an environmentally sustainable manner, aiding the conservation of biodiversity and the preservation of traditional agricultural methods. By highlighting these facets, herbal medicine promotes both individual well-being and environmental responsibility.

## **X. METHODOLOGY:-**

\* A precise quantity of herbs, botanical extracts, and similar substances is essential.

\* This is due to the fact that a specific blend typically contains around 6-7 active components.

\* All the necessary raw materials, including herbs and minerals, for crafting Ayurvedic remedies are abundantly available throughout India.

\* List of raw materials (Powder/churna) :

1. Turmeric
2. Honey

3. Triphala Churna (Powder)

4. Tulsi Powder

5. Black Pepper

6. Dried Ginger

7. Cinnamon (Dalchini)

8. Amchur Or Dried Mango Powder

9. Clove (Laung)

Starch Used As A Binder

Methodologies commonly used in herbal medicine research:

### **Pharmacognosy:**

1. This discipline emphasizes the exploration of natural substances obtained from flora, examining their chemical makeup, biological functions, and therapeutic advantages.

2. Scientists scrutinize botanical components, including alkaloids, flavonoids, terpenoids, and phenolic substances.

### **Ethnobotanical Surveys:**

1. Ethno botanists record ancestral wisdom concerning the utilization of plants by native populations.

2. Surveys uncover healing plants, methods of preparation, and their cultural importance.

### **Metabolomics and Metabolite Profiling:**

1. Cutting-edge techniques assess the complete metabolize of herbal extracts.

2. Investigators identify and measure various metabolites, shedding light on their significance.

### **Genomic and Transcriptomic Studies:**

1. Exploring plant genomes aids in the comprehension of biosynthetic routes for secondary Metabolites.

2. Transcriptomics uncovers gene expression trends in reaction to environmental influences.

### **Network Pharmacology:**

1. Merges bioinformatics, systems biology, and pharmacological studies.

2. Anticipates interactions between herbal constituents and biological targets.





**Quality Assurance and Standardization:**

1. Establishing quality benchmarks for herbal products guarantees uniformity.
2. Methods comprise high-performance liquid chromatography (HPLC) and mass spectrometry.

**Preparations**

\* List of Requirements herbs:

1. Turmeric
2. Honey
3. Triphala Churna (Powder)
4. Tulsi Powder
5. Black Pepper
6. Dried Ginger
7. Cinnamon (Dalchini)
8. Amchur Or Dried Mango Powder
9. Clove (Laung)
10. Starch Used As A Binder.

\* Ayurvedic Churna / Powder

\* All above herbs/leaves were collected in winter season and dried under shades.

\* After drying leaves were crushed in mortar pastel and filtered with muslin cloth.

\* These powders in exact proportions are blended together in stainless steel cone blender.

\* In Ancient Times, mortar and pastel is used for grinding and blending of herbs, leaves. Etc.

\* Measure all the ingredients in below table.

\* And mix together adequate of starch and honey.

\* Mix them in mortar and pastel till it convert into thick solid.

\* Turmeric Powder is used in adequate quantity because it acts a preservative.

\* At the end make 50,100g tablets and dry them in inert atmosphere.

Herbs	Quantity
Turmeric	15
Triphala	15
Holy Basil	15
Black Pepper	15
Dried Ginger	15
Cinnamon	15

Amchur	15
Clove	15
Starch	5
Honey	25

**XI. DISCUSSION: -**

Phytotherapy, commonly referred to as herbal medicine, has served as a fundamental element of age-old healing traditions for hundreds of years, transcending various cultures around the world. This practice involves utilizing plants or their extracts to address a range of health issues, bolster overall wellness, and enhance wellbeing. Herbal treatments frequently tap into the intricate Compounds present in plants, including alkaloids, flavonoids, and essential oils, which can exert beneficial influences on the body.

**Triphala**

Triphala is made of three ingredients – Amla, Binhitaki and Haritaki

Amla: Often referred to as Indian gooseberry, alma holds a significant place in Ayurvedic healing practices.

Haritaki: In Ayurveda, the small, verdant fruit of the Terminalia chebula tree is utilized for its medicinal properties. It is a key ingredient in Triphala.

Bibhitaki: In Ayurvedic practices, the fruit of this tree serves as a remedy for prevalent conditions such as bacterial and viral infections.

**Medicinal Properties and Uses**

\* Triphala churna possesses pain-relieving, antimicrobial, anti-inflammatory, blood sugar-lowering, youth-preserving, virus-fighting, and swelling-reducing characteristics.

\* To relieve coughs, colds, and throat discomfort, consider sipping Triphala tea or mixing its powder with honey.

### Honey



### Medicinal Properties and Uses

\* Honey, referred to as Madhu in Ayurvedic scriptures, stands as a vital remedy in Ayurveda. Within this discipline, honey serves both internal and external purposes.

\* It is primarily employed to address eye diseases, coughs, thirst, mucus, hiccups, blood in vomit, leprosy, diabetes, obesity, parasitic infections, vomiting, asthma, diarrhoea, and to promote wound healing.

\* Additionally, it functions as a natural preservative and sweetening agent in various Ayurvedic formulations. It is also utilized as a carrier for some medications to enhance their effectiveness or to alleviate the adverse effects of other combined medicines.

### Holy Basil



Family name: Lamiaceae

Scientific name: *Osmium sanctum*

Common name: Basil

Sanskrit: Tulasi

Part used: Leaves

Method of propagation: Seeds

### Medicinal Properties and Uses

\* Tulsi is a spiritual herb well known for its healing and spiritual significance. In Ayurvedic traditions, it is referred to by various titles, including "Mother Nature's Medicine" and "The Queen of Herbs".

• Tulsi is effective in reducing symptoms of cough and colds thanks to its antimicrobial, anti-inflammatory, cough suppressing, and hypoallergenic properties. Consuming a few leaves of Tulsi mixed with honey aids in relieving coughs and flu while boosting immune function.

\* As a stress-relieving herb enriched with anti-inflammatory and antioxidant qualities, holy basil offers these advantages. It may even help those suffering from arthritis or fibromyalgia.

\* protect your stomach: Holy basil can relieve the effects of ulcers triggered by stress. It naturally enhances your stomach's defences by: reducing stomach acidity, diminishing mucus production, boosting mucus cell generation, and prolonging the

Lifespan of mucus cells.

### Turmeric

Family name: *Curcuma longa*

Scientific name: Zingiberaceae

Common name: Turmeric

Sanskrit: Haridra

Hindi: Haldi

Marathi: Haldi

Part used: rhizome (underground stem)

Method of propagation: Planting the rhizome



### Medicinal Properties and Uses

\* The most recognized health advantage of turmeric lies in its anti-inflammatory and antioxidant characteristics, which empower it to reduce swelling and relieve pain in ailments like

arthritis. Inflammation is a prevalent source of discomfort and pain.

\* maintaining Digestive Health: Turmeric also aids enzymatic processes, muscle function, acid secretion, and the efficient absorption of nutrients in the digestive tract.

\* Eases Cold and Throat Irritation: Consuming turmeric powder mixed with warm Milk helps relieve cold symptoms and soothes a sore throat.

\* A mixture of turmeric with warm water, consumed in the morning, promotes weight Loss.

\* Turmeric powder serves as an antiseptic and can be applied to wounds.

#### **Marketed Preparation:**

Rumalaya: A branded herbal formulation that is an analgesic remedy

Charak: A branded herbal formulation that is an analgesic remedy

Rumartho: A branded herbal formulation that is an analgesic remedy

Arthrella: A branded herbal formulation that is an analgesic remedy

Reosto: A branded herbal formulation that is an analgesic remedy

#### **XII. RESULT: -**

Herbal remedies offer extended healing without adverse reactions while consistently delivering beneficial effects. In this documented study, herbal remedies were crafted using a variety of plants. The phytochemicals found in these plants exhibit their remarkable capabilities to enhance treatments and relieving diseases. The impact of herbal remedies is enduring. Numerous individuals globally rely on herbal and natural plant-based therapies for their health need Herbal remedies serve as reliable home treatments for common colds and coughs.

#### **XIII. CONCLUSION: -**

The roots of herbal medicine trace back to ancient civilizations, utilizing plant extracts for the treatment of ailments and to bolster bodily functions. It is still the primary form of healthcare for nearly 75% of the global population, particularly in less developed and developing nations. Recently, the usage of herbal remedies has surged in industrialized countries as well. Medicinal flora accounts for 80% of the base materials utilized in drug formulation. Herbal remedies are culturally accepted, harmonize well with the human organism, and tend to have milder side effects. Plants are acknowledged for their healing properties in various traditional medical systems. Phytochemicals are present in minimal quantities within medicinal plants, leading to a gradual onset of effects from herbal remedies. To enhance the efficacy of herbal treatments, it is beneficial to incorporate allopathic medicine, which can reduce the adverse effects of allopathy while addressing the illness with the aid of herbs.

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