

Formulation and evaluation of arthritis herbal oil from mahua seeds

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Submitted: 18-04-2024

Accepted: 28-04-2024

ABSTRACT ABSTRACT: Rheumatoid arthritis (RA) is a long-term autoimmune disorder that primarily affects joints. It typically results in warm, swollen, and painful joints.it affect large population .osteoarthritis and (OA) and rheumatoid arthritis (RA) are two major form of arthritis . Mahua seeds oil could discuss its composition, potential health benefits like its anti-inflammatory properties, any studies backing its use, and how it can be used topically or orally. It's like a sneak peek into what Mahua seeds oil has to offer. Herbal formulations always have lesser or no side effects comparatively with synthetic. The aim of present study involves preparation of herbal arthritis oil using the herbal ingredients like.eg. mahua seeds, turmeric, garlic, ajwain, cinnamon. One study evaluated the extract of mahua seed for its anti oxidant activity, headache ,rheumatism . the herbal arthritis oil were prepared and evaluated for various parameter like ph, viscosity , appearance, skin irritation. Hence in the present work , we found excellent result for the herbal arthritis .

KEYWORDS: Joint pain, Arthritis Oil, Mahua seeds oil, Madhuca longifolia ,

I. INTRODUCTION

Arthritis is a painful swelling of joints and it is a common disease affecting large population. Osteoarthritis and rheumatoid arthritis are most common. Osteoarthritis is a degenerative joint disease occurring chiefly in older people and rheumatoid arthritis is an autoimmune disorder of unknown etiology. In complementary and alternative medicines such as Ayurvedic (herbs) are most commonly used for the treatment of many systemic disorders.^[1]

Association for the study of pain muscle cramps are one of the effect that come with pain therefore to improve muscle tone is also becomes a key factor while treating it .

I. Arthritis” is a combinatorial word originated by the mixing of Latin and Greek. in Greek Arthron” signifies joint and in Latin its “specifies inflammation. Thus arthritis is normally viewed as a disease caused as a result of inflamed joints. Inherently, it is not just a single disease rather a collection of medicinal problems collectively 300,000 children suffer in the US alone. The disease can incapacitate permantely if proper treatments are not provided in time. Globally’ it imposes a huge financial burden through wage loss along with the cost of medications. Several treatment pathways are now available just to control the disease but no imminent cure is found yet. For proper understanding about the disease, it is worthily to know the mechanics of a bone joint.⁽²⁾

Arthritis is most common in the following areas of the body

- Feet
- Hands
- Hips
- Knees

Usually, when a bone moves or twists on similar pieces to maintain the functional flexibility, it is then characterized as a joint. During movement the ligaments act as elastic bands to help keep the bones in the same place. Under all situations whether in resting or moving, ligaments always hold them at the same place. Cartilage tissue covers the bone surfaces to prevent from direct rubbing thus smoothens the limb movement without causing pain or bone erosion due to friction. The cavity inside the joint is filled with synovial fluid produced by the cells from the synovial membrane which is aligned with the ligaments within the joint cavity. In case of arthritis, primarily the suffering starts due to faulty joints.

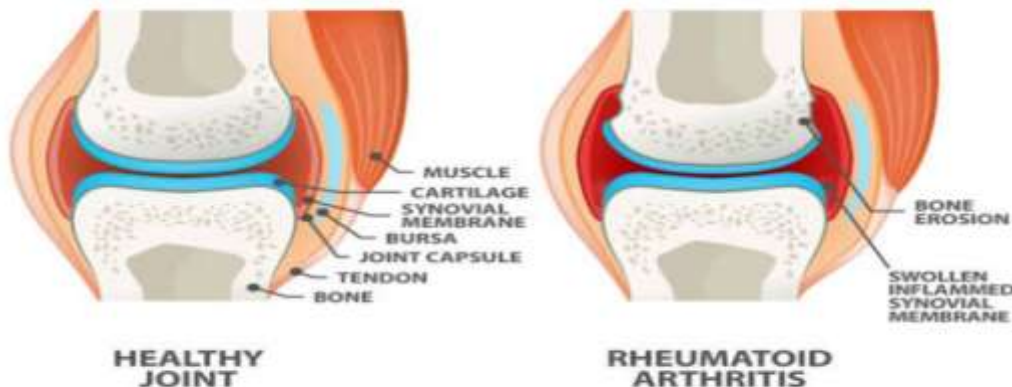
The reasons that trigger the disease are many:-

- A. Possible cartilage damage.
- B. Shortage of the synovial fluid.
- C. Autoimmune attack.
- D. Infections. By nature, arthritis is versatile

“Arthritis” literally means joint inflammation. Although joint inflammation is a symptom or sign rather than a specific, diagnosis, the term arthritis is often used to refer to any disorder that affects the joint.⁽³⁾

1.2 PART OF JOINT

Joints get cushioned and supported by soft tissues that prevent your bones from rubbing against each other. A connective tissue called articular cartilage places a key role it heal your joint smoothly without friction or pain. Some joints have a synovial member, a padded pocket of fluid



that lubricates the joints. Many joints such as your knees. Get supported by tendons and ligaments. Tendons connected muscles to your bones while ligaments connected to other bones. Arthritis is a broad term that describes more than 100 different joints condition^[4]

The most common type of include:-

Osteoarthritis

Osteoarthritis or “wear and tear” arthritis which depends when joint cut cartilage breaks down from repeated stress. It’s the most common form of arthritis.

Rheumatoid

Rheumatoid arthritis, a disease that causes the immune system to attack synovial members in your joints.

Gout a disease that causes hard crystal of uric acid to form in your joints.^[5]

❖ **SYMPTOMS OF ARTHRITIS**

Different types of arthritis have different symptoms. They can be mild in some people and severe in joint discomfort might come and go, it could stay constant. Common symptoms include:

Swelling:- in some types of arthritis, the skin over the affected joint becomes red and swollen and fill warm to the touch.

Difficulty moving a joint:- if moving a joint or getting up from a chair is hard or painful, this could see indicate arthritis or another joint problem.^[6]

Pain: pain from arthritis can be constant, or it may come and go. It may affect only one part or

❖ **Causes of arthritis**

Different type of arthritis has different causes. For instance, gout is the result of too much uric acid in your body. But for other types of arthritis, the exact causes is unknown. You may develop arthritis if you:

- Have a family history of arthritis.
- Have a job or play a support that puts repeated stress on your joints.

- Have certain autoimmune disease or viral infection
- Autoimmune disorders
- Muscles weakness^[7]

Rheumatoid arthritis {RA} is an autoimmune disease that damages the joints over time. Warm, swelling, and painful joints are most common symptoms. Rest typically makes pain and stiffness worse. There may also be fever and decreased energy. Symptoms usually appear over weeks to months. Between the mid-fourth and final decades of life, RA develops (in about 80 percent of patients). Treatment options for RA include medication and lifestyle modification. Nonsteroidal anti-inflammatory medication (NSAIDs). These medications can help with pain, but they can't help with tissue healing. Even though a variety of medications are used to manage pain and halt the course of RA, no treatment has been found to entirely cure the illness. The use of herbal medicine in the treatment of RA is as old as humanity and civilization. In comparison to current allopathic medicines, herbal medicine and therapy are now commonly used by the general public due to a nation of fewer side effects and a superior safety and security profile. The goal of this study was to create a herbal oil for arthritis^[8]

SIGN AND SYMPTOMS OF RHEUMATOID ARTHRITIS:-

- ❖ Painful joints
- ❖ Swollen joints
- ❖ Feeling weak
- ❖ Stiffness in joints^[9]

OIL

Herbal roll-ons are the natural liquid preparation containing volatile oils used to relieve pain and stress. Pain is an irritation or unpleasant sensory or emotional sensation caused due to acute or potential tissue damage and occurs with the involvement of many factors such as emotional, motivational, sensory discriminative and cognitive aspects. These volatile oils are the essential oils that contain aromatic odor and can produce psychophysiological activities that can cause mental, spiritual, and physical healing. These oils are found in leaves, petals, stems, seeds, barks, roots, etc., are used to prepare pain-relieving formulations.

The oils can be extracted by different methods such as effleurage, cold pressing. The quantity of volatile oil depends upon the type of climatic condition such as altitude, temperature, humidity, rainfall, type of soil & soil fertility, harvesting technique & time and method of extraction. They continue to be of paramount importance until the present day. Essential oils have been used as perfumes, flavors for food and beverages, or to heal both body and mind for thousands of years^[10]

Essential oils:-

Contain vitamins, antioxidants, and anti-inflammatory that may help ease arthritis pain and swelling. The oils are extracted from plants, fruits, herbs, trees, and flowers. Certain parts (like the leaves, flower, and bark) are steamed or pressed to create the oil. By some estimates, it can take several pounds of plant material consisting of more than 30 ingredients to produce just one bottle of essential oil.

MAHUA

Mahua is an economically multipurpose tree. Benefits for skin, and joint pain (arthritis). The universal role of plants in the treatment of disease is exemplified by their employment in all the major systems of medicine, irrespective of the underlying philosophical premises.⁽¹¹⁾

SCIENTIFIC NAME:- Madhuca Indica

FAMILY:- Sapotaceae

Useful parts of plant:- Every part of any plant possesses some medicinal properties, either in small or large proportion⁽¹²⁾

Mahua seeds: Mahua (*Madhuca longifolia*) a tree of Indian origin, has been known from prehistoric times and belonging to the family Sapotaceae is also known as Indian butter tree. The name *Madhuca* emanates from Sanskrit language (*madhuda* means honey) due to its flower which is sweet in taste. It is an important seasonal flowering tree having vital socio-economic value to the tribals all over India because of its religious importance and contribution to their economy and life style.⁽¹³⁾

BOTANICAL NAME: *Madhuca longifolia*

FAMILY: Sapotaceae

GENUS: *Madhuca*

SPECIE: *longifolia*



Fig no1:Mahua seeds



Fig no .2 TURMERIC



Fig no.3 cinnamon



Fig no. 3 Garlic



Fig no . 4 Cinnamon

Table no. 1 Ingredient & Quantity

S.NO	INGREDIENT	QUANTITY
1	Mahua seed oil	50 ml
2	Garlic	6-5 peace
3	Turmeric	50 gm
4	Ajwain	20 gm
5	Cinnamon	10 gm

II. MATERIAL &METHOD

Material:

a. Active herbal ingredient

- Mahua seeds – Mahua seeds are collected from the form which are located at Mandleshwar raod.
- Turmeric – turmeric are collected from the local markert of dhamnod .

- Ajwain –Ajwain are collected from the local market dhamnod
- Garlic – Garlic are collected from the form of garlic which are located near by home
- Cinnamon – Cinnamon are collected from the local market of Mandleshwar

Method:

Mahua seeds
 Turmeric
 Ajwain
 Garlic
 Cinnamon where collected from local market and home.

PROCEDURE :-

Collection of mahua seeds from farm and dry with the help of sun light.50 gm of mahua seeds. Mahua seeds are put in the oil seeds crushing machine.Take First oil excretion of mahua seeds with the help of heating.Then filter mahua oil .And heated further with other ingredient like garlic, turmeric, ajwain and cinnamon for 1 hour. Then cool and filtered after heating by cotton cloth.Prepared mahua seeds oil are collected in container.



Fig No.9: Mahua seeds oil

III. RESULT-

The formulation and evaluation of arthritis herbal oil from mahua seeds showed promising results. The oil may have potential anti-inflammatory properties that could be beneficial for managing arthritis symptoms like joint pain and stiffness. Further research and testing are important to fully understand its effectiveness and safety. It's great to see natural remedies being explored for such conditions.

Evaluation parameter	Result
Colour	Yellow
Odour	Slightly bitter
PH	4.5-6
Viscosity	0.9249
Skin irritation	No irritation

IV. CANCLUSION

In concluding the formulation and evaluation of arthritis oil from mahua seeds, it's crucial to summarize the key finding from the research or study this could include highlighting the effectiveness of the oil in managing arthritis symptoms, any potential side effect absorb, the optimal concentration of active components, and recommendation for further research or improvements in the formulation.

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