

# Effect of Lemongrass Oil on Rheumatoid Arthritis

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## Abstract:

**Aim:** To do a research on the effect of lemongrass oil on rheumatoid arthritis.

**Methods:** A total of 30 participants who were suffering from rheumatoid arthritis were chosen. They were given lemongrass oil to apply for about 30 days. The pain scale was noted for every 2 to 3 days.

**Results:** The result showed a mild changes in the pain levels of the patient. Further application would significantly show a greater decrease in the pain levels of the patient.

**Conclusion:** Rheumatoid arthritis being more common in old people, this study was conducted to create awareness about the effect of lemongrass oil on the same.

**Keywords:** Anti-inflammatory activity, lemongrass oil, pain scale, rheumatoid arthritis.

## INTRODUCTION:

Lemongrass (*Cymbopogon*) is a tall perennial plant from the Poaceae grass family, which thrives in tropical and subtropical regions. Lemongrass oil is extracted through the process of steam distillation from the dried leaves of the plant. It has a thin consistency, and a pale or bright yellow color. It has a strong, fresh, lemony, and earthy scent. Lemongrass oil can help relax and tone your muscles, as well as relieve muscle pain, rheumatism.

The main compounds of lemongrass oil are geranyl acetate, myrcene, nerol, citronellal, terpineol, methyl heptenone, dipentene, geraniol, neral, farnesol, limonene, and citral.

Another beneficial compound in lemongrass is limonene, which helps reduce inflammation and kill bacteria, according to research. According to a 2005 study by Dr. Sue Chao, lemongrass oil is one of the top six essential oils with anti-inflammatory properties. [1]

Rheumatoid arthritis is a type of arthritis that causes pain, stiffness, swelling, loss of function in the joints. The rheumatoid arthritis is very common among the age groups of 30-60.

Aromatic and medicinal plants are still a major part of traditional medicine in the developing countries. Numerous herbal therapies are currently widely used in medicine. The use of medicinal herbs as anti-inflammatory, antifungal, and analgesic drugs is common in all the countries. [3]

Biological research has shown that the various chemical compounds in EO possess antibacterial, antifungal, analgesic, and mosquito repellent properties. It is consequently essential to investigate the chemical composition of LGEO and evaluate the therapeutic potential of its volatile components. The chemical composition and pharmacological evaluation of LGEO has been the subject of several studies over the years. [2]

## Materials and Methods:

The pure essential lemongrass oil was commercially bought. A total of 30 patients suffering from rheumatoid arthritis were chosen. They belonged to different age groups varying from 35-70. They were given lemongrass oil of about 3ml for each person and asked to apply for about 30 days.

## Inclusion criteria:

- The people who had rheumatoid arthritis.
- The people who had mild, moderate and severe rheumatoid arthritis.
- The people belonging to any age groups suffering from rheumatoid arthritis.
- The people of any Indian population.
- The people applying oil occasionally for rheumatoid arthritis are asked to stop that while applying the lemongrass oil.

## Exclusion criteria:

- The people who consumes tablet/ oil/ ointment for rheumatoid arthritis.

The pain scale was noted for every 2 days. The pain scale considered in this study was from 0-10, 0 being the lowest or no pain and 10 being the terrible pain. A table was prepared for the days and the pain scale noted. Accordingly a graph was also drawn.

## Results:

The effect of lemongrass oil on rheumatoid arthritis was noted after 30 days of application. The pain scale showed a significant decrease in the pain levels. The pain levels had decreased gradually. Any application of oil, will not give the result immediately. Similarly, the lemongrass oil showed a very gradual decrease in the pain levels of patients suffering from rheumatoid arthritis. In terms of pain scale, on an average, the pain scale before the treatment was at 8 and after the treatment, it got gradually decreased to 5. In terms of percentage, the pain levels got decreased from 80% to 50% approximately.

Table 1 shows the patients who had the pain scale before treatment at 6 and the subsequent changes in pain scale. Table 2 shows the patients who had the pain scale before treatment at 7 and subsequent changes in the pain scale. Table 3 shows the patients who had pain scale before treatment at 8 and subsequent changes in the pain scale.

Table 1

DAYS	5	10	15	20	25	30
PAINSCALE	6	6	5	5	4	4

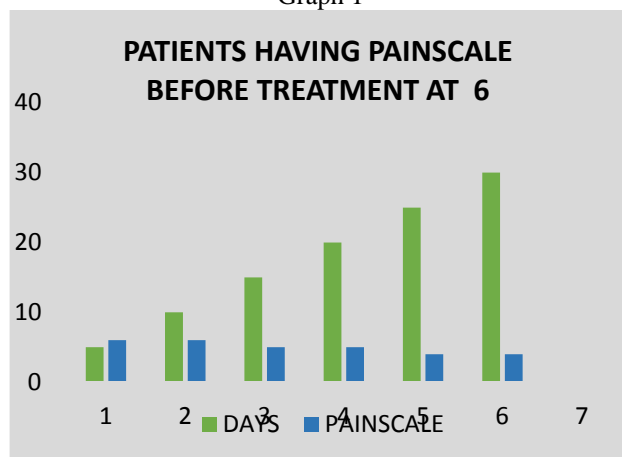
Table 2

DAYS	5	10	15	20	25	30
PAINSCALE	7	7	7	7	6	6

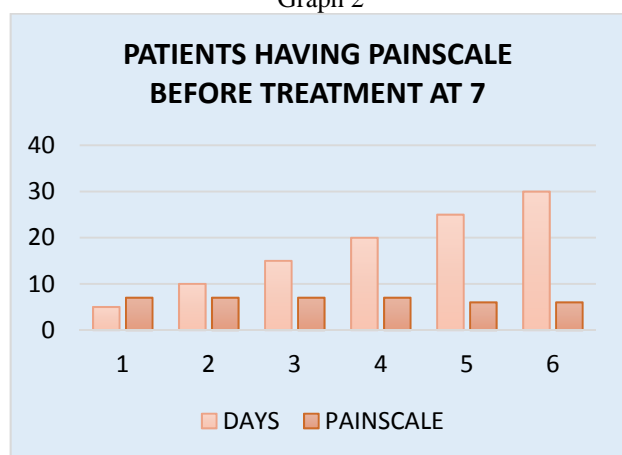
Table 3

DAYS	5	10	15	20	25	30
PAINSCALE	8	8	7	7	7	6

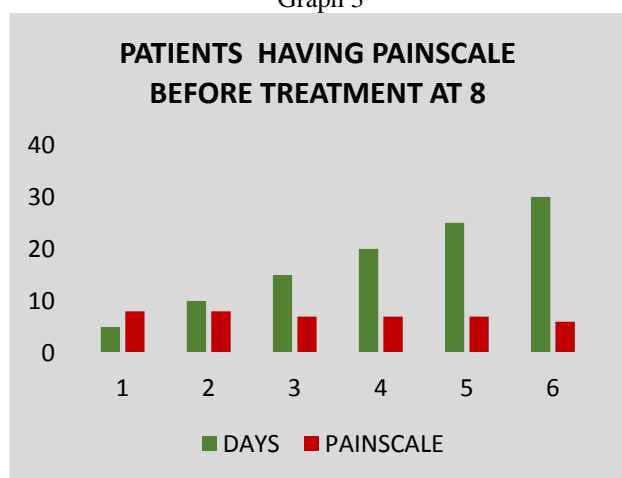
Graph 1



Graph 2



Graph 3



## DISCUSSION:

Over the years, essential oils have attracted much attention in scientific research and are increasingly used in pharmaceutical, nutritional and cosmetic industrial applications, primarily due to their potent anti-microbial, antioxidant, anticancer and anti-inflammatory activities of essential oils.[7]

The studies reveal that citral, an chemical constituent present in lemongrass essential oil exhibits greater anti-inflammatory activity. [5,7]

Modern aromatherapy for allergic and inflammatory diseases has been developed primarily based on clinical trials of EOs by several pioneers; however, scientific research on the physiological role of these EOs against allergic and inflammatory responses is still at a primitive stage. The elucidation of the pharmacological functions of lemongrass EO in vivo may provide a rationale for the clinical application of this EO as an anti-allergic and anti-inflammatory substance. [4]

The rheumatoid arthritis being very common among the people, this study was done to find the effect of lemon grass oil on the same.

The present study reveals that the pain levels of the patient has got gradually decreased during the application of lemongrass oil. So it has shown a positive result about the effect of lemongrass oil on rheumatoid arthritis.

## CONCLUSION:

With regard to the development of quality herbal medicine standardization of the extracts, phytopharmacology of different extracts, isolation and characterization of active phytopharmaceuticals, are much needed. In the changing global scenario, the interest toward plants with medicinal value is increasing substantially in the primary healthcare system both in the developed and in the developing countries. Therefore, the information will help scientists and researchers to screen the compounds responsible for different bioactivities and to elucidate the molecular mechanism of action.

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