

Assessing the Analgesic Potential of a Herbal Formulation in Patients with Rheumatoid Arthritis

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ABSTRACT

The study sought to examine the efficiency of topical essential oils in managing rheumatoid arthritis (RA) by evaluating their impact on discomfort, stiffness, fatigue, and participants' overall value of lifetime. The herbal oil blend was composed of sesame oil, nux-vomica, black oil tree, clove seed, ajwain, cinnamon, and chaste tree, prepared through a specific method. The research utilized a cross-sectional study design, enrolling RA patients from clinical settings and hospitals through convenience sampling. Additionally, an online survey was employed to reach a wider audience. The majority of respondents had been living with RA for various durations, experiencing common symptoms like pain, inflammation, stiffness, and fatigue.

The findings of the study indicated the potential efficacy of topical essential oils in alleviating RA symptoms. Participants reported a decrease in RA-related discomfort, including pain, inflammation, and joint stiffness, resulting in an enhanced overall quality of life. Nonetheless, additional research, ideally in context of randomized controlled trials, is essential to validate these results. Furthermore, future investigations should delve into the long-term

consequences of using topical essential oils for RA treatment. An understanding of the potential advantages and risks over extended periods will offer valuable insights into the viability of this approach.

Keywords: essential herbal oils, medicinal plants, rheumatoid arthritis, sesame oil extract.

INTRODUCTION

Rheumatoid arthritis is autoimmune illness causing swelling in tissue and joints, affecting both sides equally. It is more prevalent in women and typically diagnosed between 40-60, but can occur at any age. RA is caused by an immune system malfunction, causing inflammation in joints, causing swollen, stiff, painful joints and joint deformities. Various medications, including NSAIDs, DMARDs, and biologic agents, aim to reduce inflammation but can have side effects like gastrointestinal bleeding, and increased infection risk (Weyand, 2021).

Sesame, a legume oilseed, is recognized for its low saturated fatty acid content and antioxidant properties. These qualities

contribute to various health benefits, such as lowering hypertension, providing protection against brain damage due to hypoxia, and potentially reducing the occurrence of certain cancers (Wei, 2022).

Ancient oil seeds crop, rich in oil, carbohydrates, and protein, widely grown in subtropical regions (Nzikou et al., 2009).

Celastrus paniculatus, a member of the Celastraceae family, is commonly referred to as the black oil plant, or Jyotishmati, or Malkangani (Vijay, 2016).

Within the Ayurvedic system of medicine, *Celastrus paniculatus* is widely utilized to treat various conditions, including paralysis, skin ailments, depression, asthma, fever, and arthritis (Silva, 2009).

This plant has demonstrated notable pharmacological properties for example anti-arthritis, hypolipidemic, anti-inflammatory, anxiety, antifertility, analgesic, and cardiac properties (Chandur, 2010).

Trachyspermum ammi Linn, commonly referred to as Ajwain or Carom, Bishop's weed, yearly herbaceous plant going to Apiaceae domestic. Ajwain originally native to Egypt and is found growing abundantly in regions around the Mediterranean Sea and across Southwest Asia. This herb is cultivated in various countries including

India, Iran, Afghanistan, Pakistan, and Iraq (Singh, 2012).

Ajwain oil boasts extensive array of remedial request, including antibacterial, anti-inflammatory, antioxidant, antilithiasis, and antifilarial activities (Anwar, 2016).

An analysis of ajwain seeds reveals their composition per 100 grams, comprising 7.4 percent moisture, 17.1 percent protein, 21.8 percent fat, 7.9 percent minerals, 21.2 percent fiber, and 24.6 percent carbohydrates. These seeds also contain essential vitamins and minerals, as well as calcium, iron, phosphorus, carotene, thiamine, and niacin. Ajwain seeds possess a calorific value of 363. Furthermore, when crushed seeds undergo steam distillation, they yield an essential oil highly valued in the field of medicine (Hanif et al., 2021).

Cinnamon bark, scientifically known as *Cinnamomum verum* belonging to the Lauraceae family, usually usage for anti-inflammatory belongings and capability towards alleviate discomfort related through several conditions such as colonic pain, bronchitis, and rheumatoid pain. Cinnamon known as Ceylon cinnamon (Dornier, Lallemand, Pirot, & Reynes, 2000).

Cinnamon barks native toward Sri Lanka and India and stands identified in Chinese traditional medication as an anti-

inflammatory and analgesic for ailments similar arthritic pain, headaches, muscular pain, colds, and menstrual failure (Pathak & Sharma, 2021).

nux-vomica is a small hierarchy or shrub popular Sri Lanka, Australia, and India, known for its traditional medicinal component Nux vomica. Ayurvedic physicians use it for various disorders, included chronic rheumatism, nervous system diseases, urinary incontinence, and rejuvenation (Perumal, Velmani, Santhosh, & Maruthupandian, 2016).

Vitex negundo, also known as the Five-leaved Chaste Tree, is a woody climber from the Lamiaceae family, found in regions as well as Asia, Europe, North America, and West Indies. That's commercially cultivated. Ethnobotany, the learning of individuals plant interactions, often explores the use of plant-based remedies in traditional medicines worldwide (A. Singh, Devgun, Goyat, Kiran, & Singh, 2011).

Vitex negundo is valued in traditional medication for its therapeutic properties. Still, attention is advised after using plant-based therapies, by way of value and amount of active apparatuses contrast among kind and places. Seeking appropriate medical guidance beforehand usage of

herbal formulation is essential (Venkateswarlu, 2012).

MATERIAL AND METHODS

Preparation of oil

Plant material collections

Oil extracts and Plant materials obtained from Faisalabad marketplace with University Botany colleague's assistance.

Preparation of Oil

Sesame seeds essential oil was extracted through steam distillation method.

Quantity of Herbals

Oil preparation using 100mg of sesame oil, and other 20mg of malkangani, cloves, ajwain, cinnamon bark, nux vomica, and chest tree.

Mixing and Formulation

A sterilized container was used to mix and store herbal oi. 100 mg sesame oil was poured, and 20mg of malkangani, cloves, ajwain, cinnamon bark, nux vomica, and chaste tree were added. The container was closed tightly and gently shaken to distribute the herbs evenly. Infusion mixture for days, beneficial compounds released, oil strained, stored in dark glass bottle, labeled with preparation date.

Objective

The aim of this research was to examine the effectiveness of topical essential oils for managing Rheumatoid Arthritis (RA). This study focused on evaluating how these oils impacted pain, swelling, stiffness, and fatigue in individuals with RA, as well as their influence on the overall quality of life for those living with the condition

Methodology

Study Design

Cross-sectional learning using online surveys and clinics, focusing on age, disease, and willingness, with exclusion criteria for allergies.

Sample size & technique

Sample size determined based on the anticipated effect size and power of the study. Participants recruited over mixture of methods, including interviews, online surveys, and medical records. A convenience sampling approach employed.

Data Collection

Data from 8-week intervention using structured questionnaire assessed demographics and clinical aspects, recruited through social media.

Statistical Analysis

A statistical analysis was conducted to investigate any potential alterations or patterns in the measured results. Data

was summarized using descriptive statistics such as standard deviation, median and mean. Several algebraic tests, including the chi-square test and t-test, were employed toward ascertain the consequence of the practical modifications.

Study Setting

The study conducted at the Department of Chemistry, Riphah International University, Faisalabad, Pakistan.

RESULTS AND DISCUSSION

Demographics information

Respondents in this learning spanned from 19-65 ages, through by usual stage of approximately 40 years. Both males and females were represented fairly equally. A diverse range of occupations, including housewives, teachers, business professionals, and self-employed individuals, were included. Respondents had completed education levels varying from Matric to MSc/MA/MPhil.

Rheumatoid Arthritis Information:

Most participants had received a diagnosis of rheumatoid arthritis, with

durations of the condition ranging from 1 year to over 25 years. Common symptoms reported included pain, joint stiffness, swelling, and fatigue.

Treatment Methods:

Respondents had explored various treatment options, including prescribed medications like NSAIDs, herbal remedies, physical therapy, and home remedies.

Topical Treatments:

Approximately respondents incorporated topical treatments into their RA management. These behaviors included menthol-based gel also essential oils, with cannabidiol oil.

Efficacy of Topical Essential Oils:

The frequency of topical essential oil use varied, from once a week to once a day, and the duration of use ranged widely. Overall, respondents mostly evaluated topical essential oils by means of active or very effectively in alleviating their RA symptoms. They testified helpful skills, including pain relief, reduced inflammation, and improved joint mobility. Notably, no adverse effects or allergies were reported, indicating good tolerance.

Recommendation:

A majority of respondents expressed willingness to commend the usage of topical essential oils towards others experiencing RA symptoms.

Additional Comments:

Approximately participants believed that essential oils were further operative than other behaviors, while others praised their encouraging effects in addition gentleness on the skin. A few respondents specifically mentioned the efficacy of oils like olive oil and expressed overall satisfaction with essential oil usage.

Conclusion:

This training suggests that topical essential oils could a promising behavior option for rheumatoid arthritis. Yet, it is important message that the findings are constructed on a limited number of replies and may not signify the practices of altogether individuals by rheumatoid arthritis.

Limitations:

The study's limitations include a small participant pool and the absence of a randomized controlled trial, which makes it

stimulating to account for further factors that capacity have inclined the results.

Future Directions:

Further research should validate these findings, ideally through a randomized controlled study. Forthcoming trainings should also explore the extensive effects of topical essential oils in managing RA.

Have you been diagnosed with rheumatoid arthritis?
45 responses

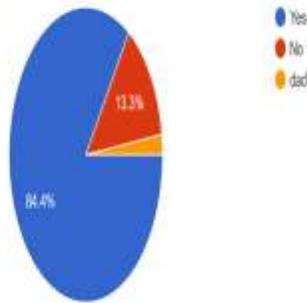


Figure 1.1: *Prevalance of Diagnosed Rheumatoid Arthritis*

How frequently do you use topical essential oils for your rheumatoid arthritis symptoms?
44 responses

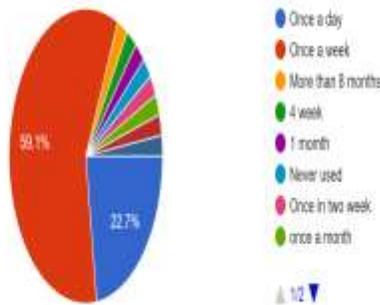


Figure 1.2: *Frequency of use of essential oils for rheumatoid arthritis*

Rate the efficacy of topical essential oils in managing your rheumatoid arthritis symptoms
44 responses

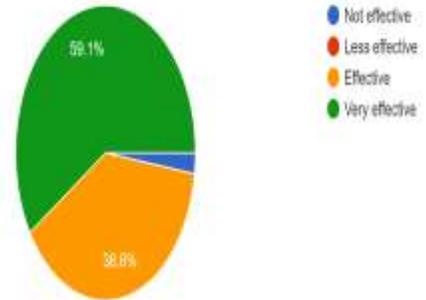


Figure1.3: *Usefulness of Topical Essential Oils in Handling RA Indications*

Have you experienced any adverse effects or allergies from using topical essential oils? If yes, please provide details.
44 responses

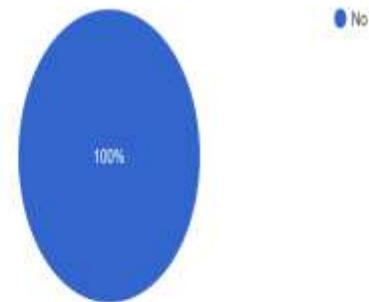


Figure 1.4: *Adversative Effects or allergies from With Topical Essential Oils*

Discussion

The learning suggests that's topical essential oils could be an effective treatment for RA, with contributors reporting reduced

symptoms, including pain, swelling, and joint stiffness, and an improved value of lifespan. However, it's important to note that the study had a partial amount of contributors and lacked randomization, making it challenging to control for other influencing factors. These findings should be confirmed through further research, ideally via a randomized controlled trial. Forthcoming research should also consider the extensive effects of topical essential oils on RA. It's crucial understand that topical essential oils are not therapy for RA but complement other therapies like medication and physical therapy. If considering their use, consulting with a doctor is essential to determine their suitability and ensure safe and effective usage.

Conclusion

In summary, the study exhibited encouraging outcomes in relation to the utilization of topical essential oils for the management of RA symptoms. Nevertheless, additional exploration is warranted to confirm its effectiveness and safety for RA patients. With more extensive research, this treatment option may potentially emerge as a viable alternative or complementary approach to existing RA therapies.

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