

# Evaluation of Abhyanga and *Unmardan* with *Dashmool Taila* in the Management of *Vedana* (Muscular Pain): A Randomised Controlled Trial Protocol

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## ABSTRACT

**Introduction:** Pain is a significant diagnostic marker and a primary reason individuals seek medical care. Recognised as the fifth vital sign, it serves an essential role in the body's defense mechanism. Chronic pain impacts approximately 30-50% of the population and is often associated with conditions such as arthritis, spinal disorders and muscular pain. Conventional management relies on NSAIDs and opioids, but their long-term use poses risks. *Dashmool*, a *vata*-pacifying Ayurvedic preparation, offers a safer alternative. Ayurveda attributes pain primarily to *vata* imbalance, caused by occlusion (*Avarana*) or tissue depletion (*DhatuKshaya*). Pain management aims to balance *Vata* and enhance tolerance. Among various therapies, *Abhyanga* and *Unmardan* are widely used. *Abhyanga* involves oil application to nourish tissues and calm *Vata*, while *Unmardan*, a deep tissue kneading technique, targets deeper muscular structures. Given the high prevalence of pain and the need for safer alternatives, exploring these therapies could provide valuable insights.

**Need of the study:** Chronic pain is a major health concern due to its high prevalence and impact on physical and emotional well-being. Various massage techniques are used for pain

management, but research on *Unmardan* for *Vedana* (muscular pain) is lacking. No comparative studies have evaluated *Abhyanga* and *Unmardan* for muscular pain relief. *Abhyanga*, a key external oleation therapy, is widely used and mentioned in classical texts as part of *Dinacharya* (daily regimen). Acharya Sushruta states that *Abhyanga* helps prevent *Vata* and *kapha* disorders, but scientific research on its effects remains limited.

**Aim:** Evaluation of comparative efficacy of *Abhyanga* and *Unmardan* with *Dashmool Taila* in the management of *Vedana* (Muscular pain).

**Materials and Methods:** The present randomised single-blind two-arm superiority Controlled trial will be conducted at Mahatma Gandhi Ayurvedic College Hospital & Research Centre, Wardha, Maharashtra, India (January 2025-January 2026). Sixty patients will be divided into two groups. Group A (n=30): *Abhyanga* with *Dashmoola* Oil, Group B (n=30): *Unmardan* with *Dashmoola* oil. The procedure will be done for 45 min. Up to seven days and follow-up will be taken on the 0, 8<sup>th</sup> and 16<sup>th</sup> day in both the groups on the objective parameters {Visual Analogue Scale (VAS) Scale, Numeric pain rating scale, Quality of life scale}. Paired and unpaired t-tests will analyse data, with  $p < 0.05$  considered significant.

**Keywords:** Ayurved, Pain, Panchkarma, *Ruk*, *Shaman*, *Shodhan*, *Shool*, *Snehan*, *Swedan*

## INTRODUCTION

Since pain is widely recognised as a sign of illness and the most frequent symptom that brings a patient to the attention of a doctor, it is crucial to comprehend it. An unpleasant feeling that is restricted to a certain area of the body is called pain. The patient's pain and discomfort, as well as its location, duration, and quality, offer crucial diagnostic clues and are used to assess how well a treatment is working. Analgesics, or painkillers, are among the most commonly used drug classes. They are utilised in every situation, but they have drawbacks and adverse effects that should not be disregarded [1]. Ayurveda provides a profound understanding of pain (*Vedana*) and its management, attributing it primarily to *Vata dosha* imbalance, either due to occlusion (*Avarana*) or depletion of body tissues (*Dhatu Kshaya*). Pain in Ayurveda can manifest as a disease (*Roga*), a prodromal symptom (*Purvarupa*), or a complication (*Upadrava*). The classical texts describe various therapeutic approaches to managing pain, focusing on balancing *Vata dosha* and enhancing the pain threshold of an individual [2].

Myalgia, or muscle pain, can be a sign of an accident, infection, illness, or other medical trouble. In certain places or throughout the body, it may show up as a quick, acute pain or as a persistent discomfort. In contrast to systemic muscular pain, which can result from infections, diseases, or adverse drug reactions, tension,

stress, overuse, and minor injuries are common causes. Chronic muscle pain is linked to conditions like fibromyalgia, myofascial pain syndrome, and neurological disorders. Activation of muscle nociceptors contributes to spinal sensory neuron hyperexcitability (central sensitisation), intensifying pain perception. Research suggests musculoskeletal pain is a leading cause of medical visits, with nonspecific back pain and myofascial trigger points being highly prevalent [3].

Ayurveda provides detailed descriptions of pain and its types. The term *Vedana* refers to the sensation of pain, *Ruja* signifies severe pain, and *Shula* denotes colicky pain. These terms describe pain with different perceptions, emphasising the depth of Ayurvedic understanding of pain mechanisms. Ayurveda attributes pain primarily to *Vata* imbalance, although *Pitta* and *kapha* doshas may also contribute through the principle of *Avarana* (occlusion). In Ayurvedic texts, *Shula Roga* has been described as a painful condition, with specific types of pain classified based on the *dosha* involved. For instance, *Vatik Shula* is associated with pain in the bladder (*Basti*), *Paittik Shula* with pain around the navel (*Nabhi*), and *Kaphaja Shula* with pain in the heart (*Hridaya*), flanks (*Parshva*), and abdomen (*Kukshi*). Examples of *PaittikShula* include biliary colic and duodenal ulcer pain [1]. Pain management in Ayurveda focuses on pacifying *Vata*, which is central to reducing *Vedana*. When vitiated *Vata* spreads throughout the body, it causes fasciculations, breaking

pain, and joint crepitus. When aggravated *Vata* is located in muscles and fat, and it manifests as heaviness, pricking pain, and fatigue, as if struck by a rod or fist.

Among the various therapies described in Ayurveda, *Abhyanga* (therapeutic oil massage) and *Unmardan* (deep tissue kneading) are widely used for pain management. *Abhyanga* is an integral part of *Dincharya* [4] (daily routine) and is mentioned in Ayurvedic texts as a preventive and curative therapy for *Vata* and *kapha* disorders. It involves the application of medicated oils to the body, promoting circulation, relaxation, and pain relief. *Unmardan*, on the other hand, is a technique where muscles are gently lifted and pressed with mild pressure, often in combination with medicated oils [4]. Unlike *Abhyanga*, which primarily involves oil application, *Unmardan* incorporates a more intense kneading action to target deeper tissues. Ayurvedic texts mention its application in *Vata Vyadhi*, including *Twakgata Vata*, *Mamsagata Vata*, *Raktagata Vata*, *Siragata Vata*, *Snayugata Vata*, *Sandhigata Vata*, and *Asthigata Vata* [5].

It is described that *Unmardan* can be applied in conditions involving muscles, joints, tendons, and bones, and can also be used in healthy individuals for preventive health benefits. Despite their therapeutic significance, there is limited scientific research comparing the efficacy of *Abhyanga* and *Unmardan* in pain management.

Everyone at some point of time in life has had pain the only difference is some had acute pain whereas others suffered from chronic pain. Pain is one of the most prevalent symptoms associated with various diseases, becoming more prominent with increasing life expectancy. Despite a vast population experiencing pain and extensive references in Ayurvedic texts, only a limited number of Ayurvedic drugs and procedures have been scientifically evaluated for their efficacy. Therefore, a comprehensive review of the Ayurvedic perspective on pain would be valuable [2].

**Primary Objective:** To compare the clinical efficacy of *Abhyanga* (therapeutic oil massage) and *Unmardana* using *Dashamoola Taila* in the management of *Vedanā* (muscular pain), as assessed by the VAS for pain intensity.

#### Secondary Objectives:

1. To evaluate the effectiveness of *Abhyanga* with *Dashamoola Taila* in reducing muscular pain, as measured by the VAS, the Numeric pain rating scale, and the Quality of Life assessment scale.
2. To evaluate the effectiveness of *Unmardana* with *Dashamoola Taila* in reducing muscular pain, as measured by the VAS, the Numeric pain rating scale, and the Quality of Life assessment scale.
3. To compare the impact of *Abhyanga* and *Unmardana* on patient-reported pain intensity, functional status, and overall quality of life in individuals suffering from muscular pain.

**Null hypothesis [H0]:** *Unmardan* with *Dashmool Taila* is as efficacious as *Abhyanga* with *Dashmool Taila* in the management of *Vedana* (Muscular pain).

**Alternative hypothesis [H1]:** *Unmardan* with *Dashmool Taila* is more efficacious than *Abhyanga* with *Dashmool Taila* in the management of *Vedana* (Muscular pain).

## REVIEW OF LITERATURE

*Vedana*, in Buddhist psychology, denotes the immediate feeling tone pleasant, unpleasant, or neutral that arises when sense organs contact objects through consciousness. Counted among the five aggregates and a key link in dependent origination, it represents raw sensation rather than complex emotions. Texts classify *vedanā* into three, six, or more types, distinguishing bodily and mental experiences. Mindfulness of feelings (*vedanā nupassanā*) is central in meditation, helping reduce craving and aversion by revealing impermanence, while modern scholarship links *vedanā* to emotion

regulation, reactivity, and therapeutic insights in contemporary psychology [6].

Studies on Ayurvedic management of *Sandhigata Vata* (osteoarthritis) report that *Abhyanga* with medicated oils like *Dashamula Taila* or *Shulahara Taila* followed by *Swedana* significantly reduces pain, stiffness, swelling, and tenderness while improving mobility. Comparative trials consistently highlight the *Vata*-pacifying and analgesic benefits of such local therapies, supporting their role as effective interventions in musculoskeletal degenerative disorders [7].

Dr. Divya Kajaria's Text Book of Panchakarma with Illustrated Picture, published by Chaukhambha Sanskrit Bhawan, serves as a comprehensive guide to the principles and practices of Panchakarma therapy. This work meticulously outlines the methodologies, therapeutic procedures, and their physiological implications, offering a blend of classical Ayurvedic wisdom and contemporary clinical insights. The book is particularly notable for its detailed illustrations, which enhance the understanding of various Panchakarma techniques. It stands as a valuable resource for both practitioners and students of Ayurveda, providing a clear and practical approach to detoxification and rejuvenation therapies [4].

While several studies validate *Abhyanga* and *DashmoolaTaila* for pain management, no direct comparative research exists between *Abhyanga* and *Unmardan*. This study aims to bridge this gap by evaluating their relative efficacy in muscular pain (*Vedana*) using standardised objective parameters.

## MATERIALS AND METHODS

#### Inclusion criteria:

1. Patients who voluntarily provide written informed consent.
2. Individuals of any gender between the ages of 20 and 60 years.
3. Patients experiencing *Vedana* (muscular pain).
4. Patients with mild to moderate intensity of pain with the help of VAS, Numeric pain rating scale, Quality of Life Scale.

#### Exclusion criteria:

1. Patients with underlying any other pathological conditions e.g., trauma etc.,
2. Patients with known cases of cancer, diabetes mellitus, tuberculosis, hypertension etc.,
3. Pregnant women, and lactating mothers.
4. Patients with h/o addictive drugs/drinks, smokers, alcohol consumers etc.,
5. Patients with complaints of Ear pain (*Karna Vedana*), Pain in the nose (*Nasa vedana*), Pain in the eyes (*Akshi vedana*), Headache (*Shiro vedana*), Pain in the rectal region (*Guda vedana*), Pain in chest region (*Hridya vedana*), throbbing type of pain.

The present randomised, single-assessor blind, double-arm superiority controlled trial will be conducted at MGACH&RC, Salod, Wardha, Maharashtra, India, from January 2025 to January 2026. Ethical approval has been granted by the Institutional Ethics Committee under registration number MGACHRC/IEC/Jun-2024/848. The trial is registered on the CTRI platform with the registration number CTRI/2024/10/075279. The Institutional Ethics Committee will monitor the trial's progress and validate the final outcomes.

#### Sample size calculation:

$$n \geq \left\{ \frac{Z_{1-\alpha/2} \sqrt{p_1(1-p_1)} + Z_{1-\beta} \sqrt{p_1(1-p_1) + p_2(1-p_2)}}{p_2 - p_1} \right\}^2$$

Where:

- n=Minimum sample size per group

- $p = (p_1 + r \times p_2) / (1 + r)$  is the pooled proportion
- $Z_{(1-\alpha/2)} = Z$ -value for the significance level (two-tailed,  $\alpha = 0.05$ ,  $Z = 1.96$ )
- $Z_{(1-\beta)} = Z$ -value for power ( $1 - \beta = 0.8$ ,  $Z = 0.84$ )
- $r =$ Ratio of sample sizes (Group 2/Group 1)

Relief in knee joint pain  $p_1$  in Group 1 (*Abhyanga* with *dashmooltail*) = 0.3271 (As per reference article)

Relief in knee joint pain  $p_2$  in Group 1 (*Unmardan* with *dashmooltail*) = 0.6271

Considering 30% superiority

Calculate pooled proportion ( $p$ ):

$$p = (p_1 + r \times p_2) / (1 + r)$$

$$p = (0.3271 + 1 \times 0.6271) / (1 + 1) = 0.4771$$

$$n \geq \left\{ \frac{1.96 \times \sqrt{((1+1) \times 0.4771 \times (1-0.4771)) + 0.84 \times \sqrt{(0.3271 \times (1-0.3271) + 0.6271 \times (1-0.6271))}}}{(1 \times (0.6271 - 0.3271))^2} \right\}$$

$$n \geq 43.2 \approx 43$$

Hence, the minimum sample size needed per group is 43, and the total sample size required becomes 86. However, considering the dropout rate as 30%, we consider that the sample size per group will be 30, which leads to a total sample size of 60.

These sixty patients will be grouped into two groups, Group A (N=30) – *Abhyanga* with Dashmool Oil, Group B (N=30) – *Unmardan* with Dashmool Oil. The follow-up will be taken on the 0<sup>th</sup>, 8<sup>th</sup> and 16<sup>th</sup> day in both groups on the objective parameters (VAS Scale, Numeric pain rating scale, Quality of life scale).

The drugs will be procured from a certified retail source and standardised by the Department of Dravya Guna at MGACH&RC, Wardha. Market preparations of Dashmool oil will be utilised. [Table/Fig-1] [8-10] below shows the Ayurvedic properties of the drug used in this study, and [Table/Fig-2] shows the part of the drug used and the quantity taken and [Table/Fig-3] shows the quality of drug which breaks the disease pathology [11-13].

## Study Procedure

### 1. Pre-procedure (*Purva Karma*)

Before beginning *Unmardan*, proper preparation ensures maximum therapeutic benefit.

#### a. Patient preparation:

- Take well informed consent.
- The patient should have an empty stomach or at least 1-2 hours after a light meal.
- Ask the patient to empty their bladder and bowels before the procedure.
- The patient should be seated in a comfortable position in a warm, well-ventilated room.

#### b. Masseuse preparation:

- The therapist should have clean hands and trimmed nails.
- The oil should be pre-warmed using a water bath method to enhance absorption.
- Ensure the room is warm, as *Abhyanga* should not be done in a cold environment.

#### c. Materials required:

- *Dashmool* Oil (warmed to body temperature).
- Towels and sheets for draping.
- A comfortable massage table or mat.

## 2. Procedure (*Pradhana Karma*)

a. **Positioning the Patient:** The patient is asked to lie down in a comfortable position and *Unmardan* of body parts will be done.

#### b. Oil Application:

- Begin by applying warm *Dashmool* oil on areas with pain with gentle strokes.
- Use long strokes for limbs and circular motions for joints.

c. **Massage Techniques:** *Unmardan* (kneading technique)

#### d. Duration:

- For complete body, the entire procedure should last 30-45 minutes, ensuring proper absorption.
- Each limb should be massaged for 5-7 minutes, and the back and abdomen for 10-15 minutes.

## 3. Post-procedure (*Paschat Karma*)

#### a. Resting period:

- The patient should rest for 10-15 minutes in a warm environment.

Drug	Latin Name	Taste (Rasa)	Properties (Guna)	Potency (Virya)	Post digestion effect (Vipaka)	Action (Karma)
<i>Bilva</i> [9]	<i>Aegle marmelos</i>	<i>Katu</i> (pungent), <i>Tikta</i> (bitter), and <i>Kashaya</i> (astringent)	<i>Laghu</i> (light), <i>Snigdha</i> (unctuous), and <i>Tikshna</i> (sharp)	<i>Ushna</i> (hot)	<i>Katu</i> (pungent).	<i>Kapha - vata</i> pacifying
<i>Agnimanth</i> [8]	<i>Premna serratifolia</i>	<i>Tikta</i> (bitter) and <i>Katu</i> (pungent)	<i>Laghu</i> (light) and <i>Ruksha</i> (dry)	<i>Ushna</i> (hot)	<i>Katu</i> (pungent).	<i>Kapha - vata</i> pacifying
<i>Gambhar</i> [10]	<i>Gmelina arborea</i>	<i>Tikta</i> (bitter) and <i>Kashaya</i> (astringent)	<i>Guru</i> (heavy)	<i>Ushna</i> (hot)	<i>Katu</i> (pungent).	<i>Kapha-vata-pitta</i> pacifying
<i>Shyonaka</i> [9]	<i>Oroxylum indicum</i>	<i>Tikta</i> (bitter) and <i>Kashaya</i> (astringent)	<i>Laghu</i> (light) and <i>Ruksha</i> (dry)	<i>Sheeta</i> (cold)	<i>Katu</i> (pungent).	<i>Tridosh</i> pacifying <i>Aampachak</i>
<i>Patala</i> [8]	<i>Stereospermum suaveolens</i>	<i>Laghu</i> (light) and <i>Ruksha</i> (dry)	<i>Laghu</i> (light) and <i>Ruksha</i> (dry)	<i>Anushna</i>	<i>Katu</i> (pungent).	<i>Vata-pitta-kapha</i> pacifying
<i>Brihati</i> [9]	<i>Solanum indicum</i>	<i>Tikta</i> (bitter) and <i>Katu</i> (pungent).	<i>Laghu</i> (light), <i>Tikshna</i> (sharp), and <i>Ruksha</i> (dry)	<i>Ushna</i> (hot)	<i>Katu</i> (pungent).	<i>Vata-kapha</i> pacifying
<i>Shalaparni</i> [8]	<i>Desmodium gangeticum</i>	<i>Madhura</i> (sweet) and <i>Tikta</i> (bitter)	<i>Snigdha</i> (unctuous)	<i>Ushna</i> (hot)	<i>Madhura</i> (sweet)	<i>Tridosh</i> pacifying
<i>Kantakari</i> [8]	<i>Solanum xanthocarpum</i>	<i>Tikta</i> (bitter) and <i>Katu</i> (pungent).	<i>Laghu</i> (light) and <i>Ruksha</i> (dry) <i>Tikshna</i>	<i>Ushna</i> (hot)	<i>Katu</i> (pungent).	<i>Vata-kapha</i> pacifying
<i>Gokshura</i> [8]	<i>Tribulus terrestris</i>	<i>Madhura</i> (sweet)	<i>Guru</i> (heavy) and <i>Snigdha</i> (unctuous)	<i>Sheeta</i> (cold)	<i>Madhura</i> (sweet)	<i>Vata - Pitta</i> pacifying
<i>Prishnaparni</i> [8]	<i>Urania picta</i>	<i>Madhura</i> (sweet) and <i>Tikta</i> (bitter)	<i>Laghu</i> (light) and <i>Snigdha</i> (unctuous)	<i>Ushna</i> (hot)	<i>Madhura</i> (sweet)	<i>Tridosh</i> pacifying

[Table/Fig-1]: Showing ayurvedic properties of drugs used [8-10].

Sanskrit Name	English Name	Part Used	Quantity
<i>Bilwa</i>	Stone Apple	Root	50 gm
<i>Agnimantha</i>	Dusky Fire Brand Bark	Root	50 gm
<i>Shyonak</i>	Indian Trumpet Tree	Root	50 gm
<i>Patala</i>	Trumpet	Root	50 gm
<i>Gambhari</i>	Coomb Teak	Root	50 gm
<i>Shalparni</i>	Sal leaved Desmodium	Root	50 gm
<i>Prashnaparni</i>	Slight of hand	Root	50 gm
<i>Brahati</i>	African egg plant	Root	50 gm
<i>Kantakari</i>	Yellow Berried Nightshade	Root	50 gm
<i>Gokshur</i>	Puncture Vine	Root	50 gm
<i>Nirgundi</i>	Five leaved chaste tree	Leaves	500 gm
<i>Sarshap</i>	Field mustard	Root	2 Litre

[Table/Fig-2]: Composition of Dashmoola Taila.

Name of drug	Properties of drugs which break the disease pathology
<i>Bilwa</i>	Laghu, Ushna guna Tridoshaghna qualities
<i>Agnimantha</i>	Neuralgia, anti-inflammatory, stimulant, and antibacterial properties
<i>Shyonak</i>	Anti-inflammatory, Anti-rheumatism
<i>Patala</i>	Anti-inflammatory
<i>Gambhari</i>	Antioxidant Activity
<i>Shalparni</i>	Anti-inflammatory properties, analgesic effects, and antioxidant activity
<i>Prashnaparni</i>	general weariness of joints, antioxidant, analgesic, and anti-inflammatory antiseptic, anti-inflammatory, anti-microbial
<i>Brahati</i>	promotes digestive fire
<i>Kantakari</i>	anti-inflammatory
<i>Gokshur</i> [12]	Analgesic, Antioxidant, Anti-inflammatory,
<i>Til Taila</i> [13]	Antioxidant Property

[Table/Fig-3]: Role of Dashmool oil based on properties of each component [12-13].

- Avoid exposure to cold air or direct wind immediately after the massage.
- b. Swedana (Sudation therapy):**
  - *BashpaSweda* (Steam Bath) or *NadiSweda* (Localised Steam) will be given to enhance oil penetration and remove toxins.
- c. Bathing:**
  - The patient should take a warm water bath
  - Avoid cold water baths immediately after *Abhyanga*.
- d. Dietary and lifestyle recommendations:**
  - Light, warm, and easily digestible food should be consumed.
  - Avoid excessive physical exertion, stress, or exposure to cold after the procedure.

**Criteria for ending or changing allocated interventions:**

1. Patients whose pain becomes severe.
2. Patients who choose to quit during the study will be allowed to do so and will be replaced.
3. Patients will be withdrawn if they develop any acute illness during the trial that may interfere with the study.
4. In case of untoward incidents, drug sensitivity, or any other health issue during the trial, the patient will be offered free treatment until the issue is resolved and such patients will also be withdrawn and replaced.

**Assessment criteria:**

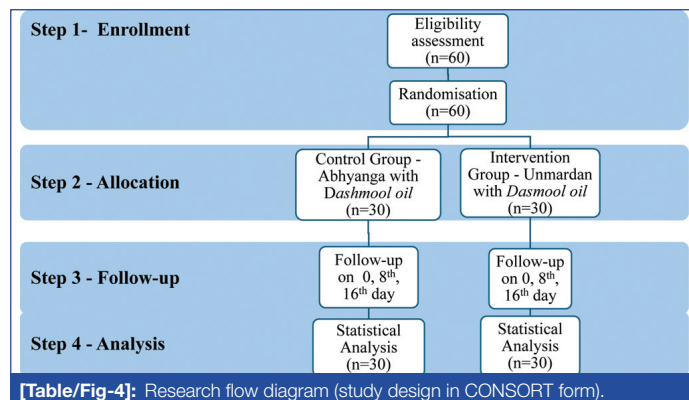
Screening parameters included the following

1. VAS Scale
2. Numeric pain rating scale

**3. Quality Of Life Scale**

The patient evaluates their current pain, the minimal pain, and the most intense pain experienced over the past 24 hours. The overall pain level is determined by calculating the average of these three ratings.

**Intervention modification:** We will notify the ethical committee of any unfavourable side effects. The patients will receive treatment for the negative effects. If participants decide to stop the treatment, they must explain why. [Table/Fig-4] below shows the Consort diagram, and [Table/Fig-5] shows the Gantt Chart for the study.



[Table/Fig-4]: Research flow diagram (study design in CONSORT form).

Scholar/Investigator	Dr. Farid Hydri							
Title	Evaluation of Comparative Efficacy of <i>Abhyanga</i> and <i>Unmardan</i> with <i>Dashmool Taila</i> in the Management of <i>Vedana</i> (Muscular Pain)							
Steps	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
IEC authorisation								
Literature overview								
Medicinal preparation								
Patients enrolled								
Data gathering								
Analysis								
Thesis Writing								
Submission								

[Table/Fig-5]: Participant timeline (Gantt Chart).

**Primary Outcome:**

- Reduction in pain intensity, as measured by the VAS, between the two intervention groups (*Abhyanga* and *Unmardana*) at baseline, Day 8, and Day 16.

**Secondary Outcomes:**

1. Improvement in self-reported pain severity, as measured by the Numeric pain rating scale.
2. Change in overall quality of life, as measured by the Quality of life assessment scale.
3. Comparative evaluation of safety, patient acceptability, and any adverse events observed during the intervention period.

**Recruitment:** Patient recruitment will be conducted at Mahatma Gandhi Ayurveda College, Hospital, and Research Centre, Salod, through the Panchakarma Department and specialised peripheral camps. A total of 60 volunteers will be included in the study.

**Allocation implementation:** The original author or the researcher will enroll the participants, administer the intervention, and determine the allocation sequence.

**Blinding:** Randomised Single (Assessor) blind Double Arm Superiority Comparative Clinical Trial.

**Dissemination:** This study will be documented as a thesis to support research advancement. The protocol outlines the methodology,

data collection, analysis strategies, and ethical approval. The aim is to contribute to existing knowledge and encourage further research in this field.

## STATISTICAL ANALYSIS

Statistical Package for Social Sciences (SPSS) 17.0 software will be used for data analysis. Paired t-tests will evaluate changes in scale ratings within each group, while unpaired t-tests will be conducted to compare differences between groups, with a p-value below 0.05 indicating statistical significance.

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**Guidelines:** For the study, SPIRIT Guidelines are being followed.

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