



A CLINICAL STUDY TO EVALUATE THE EFFICACY OF *MRUTTIKA PINDA SWEDA* IN THE MANAGEMENT OF KATIGRAHA W.S.R TO LOW BACK PAIN

Chetana Mugali

¹PG Scholar, Department of Panchakarma, KVG Ayurveda Medical College & Hospital Sullia, Karnataka, India

Corresponding Author: mchetana270@gmail.com

<https://doi.org/10.46607/iamj1013042025>

(Published Online: April 2025)

Open Access

© International Ayurvedic Medical Journal, India 2025

Article Received: 08/02/2025 - Peer Reviewed: 29/03/2025 - Accepted for Publication: 11/04/2025.



ABSTRACT

Katigraha is the most commonly encountered disease. Almost every person suffers from it at least once in his lifetime. The condition is characterised by stiffness, pain and impaired functioning of the lumbar spine due to vitiation of *vata* in *Kati pradasha*. Even though the condition is not life-threatening, it hampers daily activities. It can be correlated to Lower back pain in contemporary science. Low back pain can vary from a dull, constant ache to a sudden sharp feeling. **Materials and Methods:** The study design selected for the study was a single-armed clinical study. The sample size for the study was 30 patients suffering from classical lakshanas of *Katigraha* as per selection criteria. All 30 patients were treated with the *Mruttika pinda swedana* for 7 days. The follow-up was done on the 14th day and the 21st day. The condition was assessed according to the detailed proforma adopting standard method of scoring of Subjective and Objective parameters before and after treatment and after following up. **Results:** The subjective parameter Pain which Visual Analogue Scale assessed had shown statistically highly significant as p value was < 0.001 . In the present study, Objective parameters ODI, RMDQ, Tenderness and Range of movement were shown to be statistically highly significant as the p-value was < 0.001 . Thirty patients of *Katigraha* treated with *Mruttika pinda swedana*, out of 30 patients 24 patients got marked improvement and six patients got moderate improvement. **Conclusion:** In this clinical study of 30 patients, the Null hypothesis is rejected, and the alternative hypothesis- “There is a significant effect of *Mruttika Pinda Sweda* in the management of *Katigraha*” is accepted.

Keywords: Katigraha, Low back pain, Swedana karma, Sankara Sweda, Mruttika pinda swedana.

INTRODUCTION

Lifestyle diseases are ailments that are primarily based on people's daily habits. Habits that detract people from activity and push them towards a sedentary routine can cause a number of health issues that can lead to chronic non-communicable diseases that can have near-life-threatening consequences.

“A man without a Spine is a pool of skin on the ground.” Thus, to lead an active and healthy life, one must keep his spine healthy. A strong spine helps to achieve good posture, which is essential to leading a bold and confident life.

Katigraha is a condition characterised by *Shula* and *Stambha* in *Kati pradesha* caused by *Shuddha* or *Sama Vata*. Acharya *Sharangadhara* classified *Katigraha* among *Vataja nanatmaja vyadhi*.¹ In classical texts like *Gadanigraha Vatavyadhi adbhikara* and *Bhavaprakasha, Amavatadhikara* finds a brief description of *Katigraha* as a disease with its etiological factors, symptoms and treatment. *Katigraha* can be compared with Low back pain.

Pain in the lower back region is one of the most common complaints seen worldwide due to improper lifestyle. An estimated 619 million people live with low back pain, and it is the leading cause of disability worldwide.² Commonly accepted definitions for the acute, sub-acute, and chronic phases are, respectively, less than 1 month, between 2 and 3 months, and greater than 3 months since the onset of the episode of low back pain.

In *Ayurveda*, *Snehana* and *Swedana* are considered as the general line of treatment in *Vataja Vikara*; the same principle is applicable to treat *Katigraha* by considering it under *Vataja Nanatmaja vyadhi*. *Swedana* is a treatment modality involving inducing sweating to remove toxins from the body, enhancing circulation, and relieving muscle tension. It is an independent *Upakrama* included under the *Shadvidhopakrama*. *Swedana karma* helps in the management of the *Vata* and *Kaphaja* disorders.³ *Sankara sweda* is one among the 13 varieties of *Sagni sweda*⁴, in which pottali or *pinda* containing prescribed drugs with or without being wrapped with clothes are used for the fomentation. *Sankara sweda* is classified into two types based on the medications used they are *Snigdha* and *Rooksha sankara sweda*. *Mruttika pinda Swedana* is a type of *Rooksha sankara sweda*.

Objectives

1. To evaluate the efficacy of *Mruttika Pinda Sweda* in *Katigraha*.
2. To Study *Swedana Karma* in detail
3. To study *Katigraha* in detail.

MATERIALS AND METHODS

Source of data Patient was selected from OPD and IPD of KVG Ayurveda Medical College and Hospital, Ambate Adka, Kurunjibag, Sullia, D.K.- Karnataka.

Table 01: Materials required for Mruttika Sweda

Materials	Quantity
Krishna Mruttika	1KG
Water	Q.S
Vessel	2
Stove	1
Cotton cloth (18inch*18 inches)	2
Thread (75cm)	2

Picture 01: Materials required for Mrittika Pinda Sweda



SELECTION CRITERIA

The present study is on the Katigraha, so the diagnostic criteria taken for the study are,

Diagnostic Criteria:

- Katigraha (stiffness)
- Kati shoola (pain in the low back region)

The cases were selected strictly as per the pre-set inclusion and exclusion criteria

Inclusion Criteria:

- Patients with classic symptoms of Sama Katigraha are chosen.
- Patients of the age group 18 to 70 years, irrespective of sex, occupation,

Socio-economic status.

- Patients fit for Swedana Karma are selected irrespective of occupation, sex and socio-economic status.

Exclusion Criteria:

- Patients who are contraindicated for Swedana according to Ayurvedic classics.
- Patients below 18 years and above 70 years
- Patients with a history of trauma (Abhighata Janya Katigraha).
- Patients who were having low backache due to any infection, cancer, congenital, vasculogenic, or vascular causes.
- Post-surgical backache.

ASSESSMENT CRITERIA

The subjective and objective parameters of before treatment, after treatment, and follow-up are compared to assess the results.

Subjective Parameter:

AJ VAS

It is a measurement instrument for subjective characteristics or attitudes that cannot be directly measured. Patients mark a point on a 10 cm horizontal or vertical line to indicate their pain intensity, with 0 indicating “no pain” and 10 indicating “the worst possible pain.”

Objective parameters

- Oswestry Disability Index
- Roland–Morris Low Back Pain and Disability Questionnaire
- Tenderness
- Restricted movements of low back region – Goniometry
 - ◆ Forward bending.
 - ◆ Backward bending.
 - ◆ Right and Left Lateral flexion.

Oswestry Disability Index

The ODI is a functional measurement for evaluating axial Lower back pain. The questionnaire produces a score to quantify the level of functional disability related to activities of daily living, such as pain intensity, personal care, lifting, walking, sitting, standing, etc.

Roland Morris Disability Questionnaires:

The Roland—Morris Disability Questionnaire is most sensitive to patients with mild to moderate disability due to Acute, sub-acute, or Chronic low back pain.

Tenderness:

Tenderness is pain or discomfort when an affected area is touched. It should not be confused with the pain that the patient perceives without touching. Pain

is a patient perception, while tenderness is a sign that clinicians elicit

Tenderness is assessed using a grading system that typically includes the following criteria.

0 -no tenderness

1 -mild tenderness without any sudden response to pressure

2- Wincing of the face on pressure due to tenderness

3- Wincing of face withdrawal of affected part on the pressure

4- Resists touch due to tenderness

Range of movement of Lumbar Spine:

The Goniometry examines the range of movement of Lumbar spine.

The term Goniometry is derived from two Greek words: gonios, which means **angle**, and metron, **which** means to **measure**. Goniometry refers to the measurement of angles, in particular, the measurement of angles created at human joints by the bones of the body.

Goniometry is used to determine both a particular joint position and the total amount of motion available at a joint. It is an important part of a comprehensive examination of joints and surrounding soft tissue. In the present study, Goniometry is used to assess the range of movement of the lumbar spine.

Table No 02: Restricted movements of the lower back

FLEXION		EXTENSION		LATERAL FLEXION	
Grade 0	More than 40°	Grade 0	More than 15°	Grade 0	More than 20°
Grade 1	20°-40°	Grade 1	10°-15°	Grade 1	5°-15°
Grade 2	1°-20°	Grade 2	5°-10°	Grade 2	Cant lateral flex due to pain
Grade 3	Cant flex due to pain	Grade 3	1°-5°		
		Grade 4	Cant extend due to pain		

RESULTS

Assessment of the total effect of the treatment is done with statistical analysis. The improvement of the therapy was calculated by using the following formula.

$$\text{Total effect in percentage} = \frac{(\text{Before Treatment} - \text{After Treatment}) \times 100}{\text{Before Treatment}}$$

Table No. 03: OVERALL ASSESSMENT OF CLINICAL RESPONSE

TOTAL EFFECT	RELIEF IN %
No Relief	0% relief in signs and symptoms
Mild Improvement	1-30% relief in signs and symptoms
Moderate Improvement	31-60% relief in signs and symptoms
Marked Improvement	61-99% relief in signs and symptoms
Complete Improvement	100% relief in signs and symptoms

PROCEDURE

PURVAKARMA:

PREPARATION OF POTTALI:

Krishna Mruttika must be taken in a vessel, and water must be added to it. This mixture is heated until it

attains a semisolid consistency. Then, the soil is taken and tied in Kora cloth, and 2 Pottalis are prepared.

PREPARATION OF PATIENT:

- Patients should be devoid of natural urges.
- The patient is made to lie in a prone position on Droni.

- *Katipradesha*, where *Swedana Karma* has to be followed out, is exposed

PRADHANA KARMA:

Swedana is carried out with the prepared *Mruttika Pinda*. The temperature of the bolus is maintained throughout the procedure. Whenever *Pottali* loses its temperature, it is reheated in the Vessel containing a mixture of *Mruttika* and water.

Swedavacharana:

Heat is applied to the *Kati pradesha* by this bolus/*pinda*. To begin with, the *Pinda's* heat was checked on the hand's dorsum.

Then, heat produced from *Pinda* is applied to *Kati Pradesha*. Heat is used initially by momentary touch to avoid the burns.

This method is continued until the heat in the bolus is lost considerably. When the heat is reduced considerably and moderately, the bolus is moved in the part above downwards. When the heat reduces further, the procedure is continued by taking another bolus, which is kept in the vessel for heating in a similar manner.

Time Duration: 30 minutes.

Total no of days: 07

PASCHAT KARMA:

- The patient is asked to take rest for 10 minutes.
- The *Kati Pradesha* treated with *Mruttika Pinda Sweda* is washed with *Ushna Jala*.
- The patient is asked to follow proper *Pathya*.

OBSERVATION

In this clinical study, 30 patients suffering from *Katigraha* were registered randomly treated with *Mruttika pinda sweda*. Maximum patients were in the age group of 31-40 years, and maximum patients were Active. There was no dropout during the course of treatment. The assessment was done based on the Subjective and Objective parameters and *Samyaka yoga, Ayoga and Atiyoga lakshana* of *Swedana Karma*. No *Ayoga* or *Atiyoga* were observed in any patients. Out of 30 patients, 26 showed moderate improvement.

RESULTS AND DISCUSSION

To study the effectiveness of the treatment procedure, a “paired t test” was used for statistical analyses. Parameters like Pain, tenderness, and improvement in the range of movements were evidently observed.

Table no 04: Showing result of Mruttika Pinda swedana in 30 Kaatigraha

Parameter	BT	FU	Net Mean	SD	SE	t value	p value	Remarks
Pain	7.77	0.83	6.93	0.30	0.197	35.14	<0.0001	HS
ODI	21.83	5.80	16.03	2.15	0.619	25.916	<0.0001	HS
RMQ	16.50	3.73	12.77	0.97	0.383	33.36	<0.0001	HS
Lumbar flexion	2.07	0.80	1.27	0.23	0.151	8.38	<0.0001	HS
Lumbar extension	2.53	0.90	1.63	0.23	0.122	13.37	<0.0001	HS
Right lateral flexion	1.13	0.37	0.77	0.14	0.110	7.0009	<0.0001	HS
Left lateral flexion	1.13	0.37	0.77	0.14	0.110	7.0009	<0.0001	HS
Tenderness	1.73	0.63	1.10	0.03	0.162	6.0423	<0.0001	HS

B. Drug effect

A.PROCEDURAL EFFECT:

Mruttika Pinda swedana is a form of *Sankara Sweda*. In the present study, *Krishna Mruttika* is used. The portals are reheated alternately in the vessel with the mixture of *Krishna Mruttika* and *Jala* after keeping

DISCUSSION ON THE PROBABLE MODE OF ACTION OF MRUTTIKA PINDA SWEDA IN KATIGRAHA

A. Procedural effect

on a mild flame. After checking the temperature on the dorsum of the hand, the *Swedana karma* is performed over the patient.

Mode of Action of *Swedana* ⁵

Stambhaghna:

Swedana releases *Sthambha*, which means stiffness.

- ❖ *Samana Vayu*, which promotes *agni*, and *Sleshakakapha*, which resides in *Sandhi*, *Amarsa*, *Mansa*, *Meda*, and *Vasa*, are mainly responsible for *Stambha*.
- ❖ *Vayu*, by *Rukshaguna*, absorbs *Snigdha* and so causes *Stambha*.
- ❖ *Sleshakakapha* has qualities like *Snigdha* and *Picchila*, and its loss of function causes *Stambha*.
- ❖ *Ushnaguna* of *Swedana* does *Srotoshuddhi* and *Amapachana* helps in reducing *stambha*.

Gauravaghna:

- ❖ *Swedana* relieves heaviness in the body.
- ❖ *Apyaghataka*- liquid substances of the body come out through *Sweda* during the *Swedana karma*.
- ❖ *Apyatva* or *Kleda* is *Guru* in nature; due to the expulsion of *Kleda*, lightness is achieved.
- ❖ *Swedana* stimulates muscles and nerves, resulting in lightness.

Shitaghna:

Swedana is *Ushna*, so it relieves *Shita* by using the opposite property.

Sweda Karaka:

Swedana promotes sweating.

- ❖ *Sweda* is a type of mala; impurities from the body come out with *Sweda*.
- ❖ *Sweda* is related to *Dhatvagni* and *Bhutagni* (Metabolism). *Swedana* drugs by *Ushna* and *Tikshna guna* are capable of penetrating the microcirculatory channels (*Srotas*) and activating the sweat glands to produce more sweat.
- ❖ After dilating microchannels, *Laghu* and *Saraguna* of these drugs enable them to act on the

Snigdha, *dosha* in the channels and direct them to move towards *Koshta* or excrete them through the skin's micropores in the form of sweat, resulting in *Srotoshodhana*. *Dosha* brought in *Koshta* are expelled out of the body with the help of *Vamana* or *Virechana* therapy.

श्लेष्मा स्रोतःस्वभिविलीयते: (cha.chi. 17/71-76)

It helps dissolve *Kapha* in *Grathitha* stage (dense) struck to channels firmly. Further it liquefies *Kapha* allowing it to move freely.

खानि मार्दवमायान्ति ततो वातानुलोमता

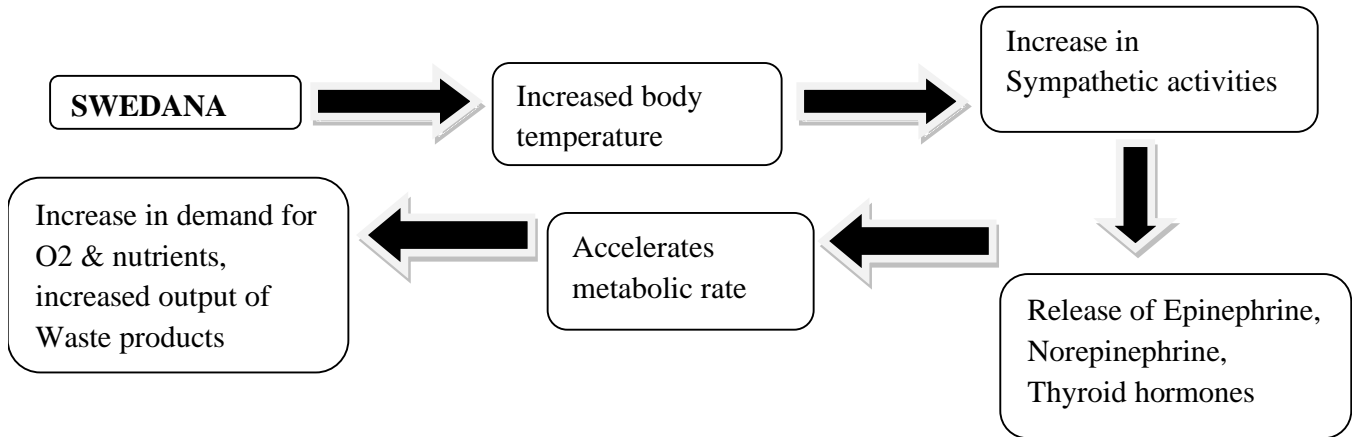
It makes the channels soften, this helps in the proper movement of *Vata*.

Thermal Effect

The thermal effect of the *Swedana* can be correlated to *Ama Pachana*, so the *Ama* present in *Kati pradesha* gets liquefied due to *Swedana* because of its *Ushna & Teekshna guna*. The obstructed *Ama* liquefies, and there will be proper movement of *vata*, which helps in *Shamana* of the *Lakshanas* of *Katigraha*.

According to *KliGman* diffusion through the skin is a temperature dependant process. So raising temperature will enhance the Transdermal delivery of various drugs by increasing skin permeability, body fluid circulation, blood vessel wall permeability, drug solubility. External heating will dilate the penetration pathways in the skin, increase kinetic energy and movement of particles in the treated area and facilitate drug absorption.

Local heating of the cutaneous tissues doesn't generally affect the body core temperature. However will result in a local increase in subcutaneous blood flow rather than a body-wide redistribution of systemic blood flow



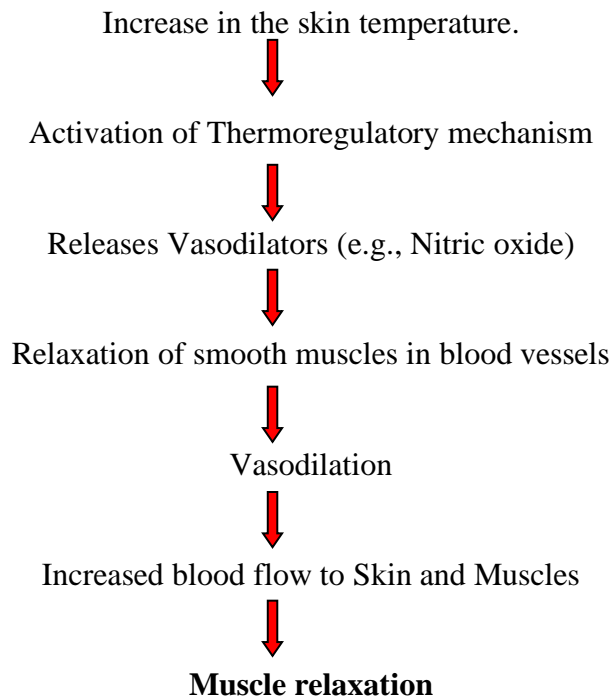
Flow chart No 01: Shows the thermal effect of swedana

Vasodilation

Vasodilation due to heat is a physiological response where blood vessels widen to increase blood flow. Vasodilation during swedana therapy occurs due to several interconnected mechanisms: Vasodilation occurs particularly in superficial tissue where the heating is maximum. Stimulation of superficial nerve endings can also cause a reflex dilation of

arterioles. By this, necessary oxygen and nutritive materials are supplied. According to the Theory of Mezlack, wall heat has been applied as a counter-irritant, which is the thermal stimulus, and it may affect the pain sensation. Heat is having an indirect effect on, Muscle tissue – increase in temperature leads to muscle relaxation and improved muscle action efficiency.

Swedana



Flow chart No 02: Shows vasodilation of swedana

Stimulation of Sweat glands

High temperature stimulates the sweat glands of the skin via hypothermic activation of sympathetic nerves and produces excessive sweating. With an increase in sweat production, more waste products are expelled out of the body.

B. DRUG EFFECT:

In the present study, *Krishna Mruttika* is used because of its qualities, such as *Ruksha* and *Madhura Guna*. The *Ruksha guna* helps in *Ama pachana*, and *Madhura guna* helps manage the vitiated *Vata*. Thus, *Krishna mruttika* helps in the *Samprapti vighatana* of *Katigraha* and manages symptoms like *Shula* and *Sthamba*.

Mruttika pinda swedana is considered the *Panchabhoutika Chikitsa* as *Prithvi mahabhuta* is used. *Katigraha*, where *Asthi* and *Mamsa* are the *Dushyas* which are involved in the formation of the disease, are *Prithvi mahabhuta* predominant; thus, *Mruttika Sweda* helps in balancing the *Prithvi mahabhuta* present in the *Asthi* and *mamsa*.

Black soils are clay in nature, so they will not create any bodily abrasions during the procedure. The fine particles of the *Mruttika* will get applied over the skin during the procedure and give the effect of *Pradeha*.

Black soil also has properties like Anti-inflammatory, Analgesic, and thermal retention capacity. These helps reduce inflammation and relieve pain.⁶

Studies show that hot mud application is more effective in managing Rheumatic pains. Mud application has a therapeutic activity due to both anti-inflammatory components and thermal effect⁷

fango (mud) application is an as often-as possible warmth treatment. The fundamental helpful impacts are because of the raised temperature of the various tissues with a noteworthy redistribution of blood towards the warmed area

The beneficial impact of mudpack treatment has been attributed chiefly to warmth alone and to the ability of mud to keep up warmth for a moderately delayed time. Momentary warm pressure is known to alleviate pain. Warmth expands the secretion of norepinephrine, cortisol, and growth hormone. Likewise, the pain-relieving impact of warmth can at least partially

be ascribed to expanded centralizations of endorphins.

A study showed that mud-pack treatment improved skin blood dissemination, which was potentially prompted by nearby instruments, specifically transcutaneous particle exchange. Additionally, a few studies proposed that sulfur minerals consumed by the skin may have a pain-relieving impact.

Sulfur in the mud incited the generation of carotene, nutrients, and phytosterol in the skin network prompting a mitigating impact and diminished serum dimensions of nitric oxide and myeloperoxidases, and decline in serum centralisations of fiery middle people, for example, prostaglandin E2 (PGE2) and (LTB4) leukotriene local hot applications instigate vasodilatation, which thus expands blood stream, digestion, and viscoelasticity of connective tissue, bringing about goals of muscle fit and help with discomfort.

CONCLUSION

Katigraha is one among the *vataja Nanatmaja Vyadhi*. With or without *Ama*, Aggravated *Vata Dosha* gets *Sthana Samshraya* in *Kati Pradesha* and produces *Shoola* and *Stambha*. In the present study, *Mruttika sweda* was administered 7 days, and the 14th-day follow-up assessment was done on the 21st. The present study shows significant results in reducing symptoms like *Shoola* and *Stambha* in *Kati pradesha*; it indicates the therapeutic effects of the procedure. Hence, we can conclude that *Mruttika pinda sweda* shows significant results in the management of *Sama Katigraha*.

REFERENCES

1. Acharya Sharangadhara—Sharangadhara Samhita, English Translation edited by Professor K.R. Srikanta Murthy, Pub: Chowkamba Orientalia, Varanasi, Prathama Khanda, Chapter 7, Sloka 105-114, Page no 108.
2. <http://www.who.int/news-room/fact-sheets/detail/low-back-pain>
3. Acharya Agnivesha-Charaka Samhitha with Ayurveda Dipika commentary by Chakrapani Datta, edited by Vaidya Yadavji Trikamji Acharya, Pub: Chaukambha Surbharti Prakshan, Varanasi, Sutrasthana Chapter 14, Shloka 3, Page No 87.
4. Acharya Agnivesha-Charaka Samhitha with Ayurveda Dipika commentary by Chakrapani Datta, edited by Vaidya Yadavji Trikamji Acharya, Pub: Chaukambha

Surbharti Prakshan, Varanasi, Sutrasthana Chapter 14, Shloka 39-40, Page No 90.

5. Dr. Vasanth. C. Patil, principles and practice of Panchakarma, Chowkambha publication, Swedana Adhyaya, Page no 245-246
6. Dr Ramkumar Agarwal and Ravi Narayan Prajapti, Mud therapy: A type of Panchabhautic Chikitsa of Ayurveda, Journal of Pharmacognosy and Phytochem-

istry, Volume 8, Issue 3, Published on 24th April 2019, Page 3645-3647

7. Dr Dushyant Kumar, Dr Sujatha K J, Dr Prashanth, Comparative Study on the Effect of Hot Mud Application and Mustard Application in Patients with Osteoarthritis of Knee. Randomised Controlled Trial.

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Chetana Mugali: A clinical study to evaluate the efficacy of mrittika pinda sweda in the management of katigraha w.s.r to low back pain. International Ayurvedic Medical Journal {online} 2025 {cited April 2025}