

The effect of sheep ghee on pain of the knee joint in older people with osteoarthritis of the knee

Submission date 03/03/2025	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 07/03/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
Last Edited 07/03/2025	Condition category Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data
		<input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Osteoarthritis, the most common joint disease, often affects the knee and causes pain, stiffness, and limited motion. This condition lowers the quality of life and increases healthcare costs, especially for the elderly. Treatments include medications, topical applications, and surgery, but painkillers can have side effects. Natural remedies like sheep ghee, used traditionally in Iran for burns and wounds, may offer a safer alternative. Sheep ghee contains components that reduce inflammation and aid in healing. This study aims to evaluate the effects of sheep ghee on knee osteoarthritis symptoms in elderly patients, given its cultural use and lower risk of complications.

Who can participate?

Adult patients with knee osteoarthritis

What does the study involve?

Participants are randomly allocated into intervention, placebo and control groups. The intervention group applied 1g of sheep ghee to the painful areas of their knees twice daily for a month. A food laboratory verified the ghee's quality. Each participant received 60g of ghee and Vaseline and was instructed to massage the painful areas for 1 minute without covering them. The placebo group used Vaseline in the same way, while the control group only performed the one-minute massage. All participants continued their usual medications, and researchers made daily phone calls to ensure the instructions were followed correctly.

What are the possible benefits and risks of participating?

Possible Benefits:

1. Pain Relief: Participants may experience a reduced knee pain associated with osteoarthritis.
2. Improved Physical Function: The study may enhance daily activities and overall physical functioning of the knee joint.
3. Increased Range of Motion: Participants might notice an improvement in their knee's range of motion, facilitating better movement and flexibility.
4. Natural Treatment: Since the study focuses on sheep ghee, participants might benefit from a natural approach that could complement their existing treatment plans.

5. Contributing to Research: Participants will contribute to valuable research that may help others suffering from knee osteoarthritis in the future.

Possible Risks:

1. Limited Follow-Up Duration: While this study is the first to evaluate this topical formulation for knee osteoarthritis, a longer follow-up could have provided insights into symptom recurrence and possible adverse events from ghee
2. Disruption of Current Treatment: Participants may find that introducing sheep ghee affects their existing treatment plans, leading to complications if not monitored adequately.
3. Individual Differences: The effectiveness of the intervention can vary based on individual health conditions, making results unpredictable.

Where is the study run from?

School of Nursing and Midwifery, Rafsanjan University of Medical Sciences, Iran

When is the study starting and how long is it expected to run for?

February 2020 to October 2022

Who is funding the study?

Rafsanjan University of Medical Sciences, Iran

Who is the main contact?

Dr Hadi Khoshab, hadikhoshab@gmail.com

Contact information

Type(s)

Public, Scientific, Principal investigator

Contact name

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

Nil known

Study information

Scientific Title

The effect of sheep ghee on pain, stiffness, physical function, and range of motion of the knee joint in older people with osteoarthritis of the knee

Study objectives

Topical application of sheep ghee reduces knee joint pain.

Ethics approval required

Ethics approval required

Ethics approval(s)

approved 23/02/2020, Rafsanjan University of Medical Sciences (Central Organization of Rafsanjan University of Medical Sciences, Rafsanjan, 7717933777, Iran; +98 03434280038; edu@rums.ac.ir), ref: IR.RUMS.REC.1398.202

Study design

Non-randomized quasi-experimental design

Primary study design

Interventional

Study type(s)

Efficacy

Health condition(s) or problem(s) studied

Assessing changes in knee joint stiffness, pain, range of motion, and physical function after the use of ghee in elderly people affected by osteoarthritis.

Interventions

The intervention group applied 1g (equivalent to a small ice cream spoon) of sheep ghee on painful areas (front, side, and back) of the knee twice daily in the morning and at night for a month. A food laboratory confirmed the quality of ghee. For one month, patients received 60g of ghee and Vaseline. They were instructed to massage painful areas for one minute without covering them. The placebo group used Vaseline the same way as the intervention group in equal doses. The control group received only one-minute massage, and all three groups continued to take their previous medications. Daily phone calls were made to the participants to ensure that the intervention was being carried out correctly.

Intervention Type

Biological/Vaccine

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Sheep ghee, vaseline

Primary outcome(s)

Pain is measured using the Visual Analogue Scale (VAS) before and immediately after the intervention

Key secondary outcome(s)

1. The range of motion for the knee joint is measured using the distance from the heel to the thigh with a ruler before and immediately after the intervention
2. The condition of patients with knee osteoarthritis, including pain, stiffness, and physical functioning of the joints, is measured using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) before and immediately after the intervention. This questionnaire evaluates three subscales on a Likert scale (None, Mild, Moderate, Severe, Extreme): 1) assessment of knee pain over the past 48 hours, 2) joint stiffness, and 3) physical function in the last 48 hours.

Completion date

01/10/2022

Eligibility**Key inclusion criteria**

1. No injury, open wound or skin disease in the knee
2. No recent injury to the affected knee
3. No alcohol or drug addiction
4. No use of other complementary methods such as physiotherapy, acupuncture or percutaneous electrical nerve stimulation
5. No history of knee surgery
6. Insensitivity to Vaseline and sheep ghee
7. No mental illness and cognitive disorder
8. Ability to see and walk
9. Ability to communicate
10. Mild to moderate pain score in VAS (Visual Analogue Scale)
11. No history of intra-articular corticosteroid or hyaluronic acid injection for the past three months

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

50 years

Upper age limit

85 years

Sex

All

Total final enrolment

85

Key exclusion criteria

Not meeting the participant inclusion criteria

Date of first enrolment

01/09/2021

Date of final enrolment

01/09/2022

Locations**Countries of recruitment**

Iran

Study participating centre

Rafsanjan University of Medical Sciences

Central Organization of Rafsanjan University of Medical Sciences

Rafsanjan

Iran

7717933777

Sponsor information**Organisation**

Rafsanjan University of Medical Sciences

ROR

<https://ror.org/01v8x0f60>

Funder(s)**Funder type**

University/education

Funder Name

Rafsanjan University of Medical Sciences

Alternative Name(s)

Funding Body Type

Private sector organisation

Funding Body Subtype

Universities (academic only)

Location

Iran

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Dr Hadi Khoshab, hadikhoshab@gmail.com. Except for the demographic characteristics of the participants and their identity, all required information will be available upon request from the corresponding author.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes