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RESEARCH ARTICLE

A study to assess the effect of Kansya vati with ghee foot massage on joint mobility of lower limb among Arthritis patients in selected areas of Sangli Miraj Kupwad Corporation

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Abstract: Arthritis, a chronic condition characterized by joint inflammation, pain, and reduced mobility, affects millions worldwide. This quasi-experimental study aimed to evaluate the effectiveness of Kansya Vati with ghee foot massage in improving lower limb joint mobility among arthritis patients in Sangli Miraj and Kupwad Corporation. Conducted from 2024 to 2025, the study recruited 60 participants aged over 30 years using purposive sampling. Exclusion criteria included pregnancy, diabetic foot, hypersensitivity, post-traumatic injuries, and unwillingness to consent. A pre-validated tool assessed joint mobility pre- and post-intervention. The experimental group received Kansya Vati ghee foot massage for seven consecutive days, while the control group received routine care. Results showed that 76.67% of the experimental group demonstrated significant improvement in joint mobility, with reduced stiffness and pain, compared to minimal change in the control group. The findings support Kansya Vati ghee foot massage as an effective complementary therapy for enhancing joint function in arthritis management.

Keywords: kansya vati, ghee, foot massage, Arthritis.

INTRODUCTION

Arthritis is a chronic musculoskeletal disorder characterized by joint inflammation, pain, stiffness, and progressive loss of mobility. It is one of the leading causes of disability worldwide, affecting over 528 million individuals globally, with a significant burden observed in India where approximately 180 million people suffer from various forms of arthritis【1,2】. The condition predominantly affects the lower limbs, impairing daily activities such as walking, climbing stairs, and maintaining balance. Conventional treatments, including NSAIDs, corticosteroids, and surgical interventions, offer symptomatic relief but are often associated with adverse effects and financial constraints.

In recent years, there has been growing interest in integrative and complementary therapies that align with traditional Indian medical systems. One such intervention is *Kansya Vati* foot massage with ghee, rooted in Ayurvedic principles. This therapy involves the use of a bronze alloy bowl (Kansya Vati) to massage the feet, often combined with medicated ghee to enhance lubrication and therapeutic efficacy. Ayurvedic texts suggest that this form of *Padabhyanga* stimulates marma points, improves lymphatic circulation, and promotes joint flexibility. Preliminary observations indicate its potential in reducing stiffness and enhancing joint mobility, particularly in the lower limbs.[3]

The Sangli Miraj Kupwad Corporation region, with its diverse demographic and increasing prevalence of arthritis among older adults, presents a relevant setting for evaluating such traditional interventions. Given the limitations of pharmacological and surgical treatments, exploring the efficacy of Kansya Vati with ghee foot massage may offer a low-cost, accessible, and culturally accepted alternative for improving joint mobility and quality of life in arthritis patients. This study aims to assess the therapeutic impact of this intervention on lower limb joint mobility among affected individuals in selected areas of the region.

By integrating traditional Ayurvedic practices with empirical research, this study seeks to contribute to the growing body of evidence supporting holistic approaches in arthritis management. The findings may inform community-level health strategies and promote the inclusion of safe, non-invasive therapies in routine care for musculoskeletal disorders.[4].

MATERIAL AND METHOD

Quasi experimental reserch approach was used, which included Arthtieis patients in selected areas of Sangli Miraj and Kupwad coporation. Ethical approval was obtained from the Bharati Vidyapeeth deemed to be University College of Nursing Institutional Ethical Committee (BVDU/CON/SAN/594/2024-2025). Researcher conducted the assessment test for check the level of joint mobility and participants were selected according to the inclusion criteria included patients having arthritis and age is more than 30 years.exclusion criteria composed of pregnant womens with arthritis ,suffers of joint mobility, post traumatic injuries, diabetic foot, hypersensitivity to skin and those who was not willing to give written consent.

Study participants

Participants were assigned with Non probability purposive sampling technique.

Kansya vati ghee foot massage

Kansya Vati foot massage with ghee, administered for 10 minutes, is a traditional Ayurvedic intervention known to enhance lower limb joint mobility through its therapeutic effects on circulation, muscle relaxation, and joint lubrication. The massage utilizes a bronze alloy bowl (Kansya Vati) in combination with medicated ghee, which is believed to penetrate deeply into tissues, reducing stiffness and promoting flexibility. This technique stimulates vital marma points on the feet, improving lymphatic drainage and neuromuscular coordination. Regular application may alleviate joint discomfort, increase range of motion, and support functional mobility in arthritis patients, offering a non-invasive and culturally integrated approach to musculoskeletal care.[5]

Sample selection criteria

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Ethical consideration

The Institutional ethical committee Bharati Vidyapeeth (deemed to be university) College of nursing (BVDU/CON/SAN/594/2024-2025) approved the study A study to assess the effect of Kansya vati with ghee foot massage on joint mobility of lower limb among Arthritis patients in selected areas of Sangli Miraj Kupwad Corporation.

Statistical analysis

Quantitative data analysis will be conducted in accordance with the predefined study objectives. Demographic and clinical characteristics of the participants will be summarized using descriptive statistics, including frequency and percentage distributions. The range of motion in the lower limbs will be evaluated using measures of central tendency and dispersion, specifically mean and standard deviation (SD).

To assess the therapeutic impact of Kansya Vati ghee foot massage on lower limb joint mobility among individuals with arthritis, comparative analysis between the experimental and control groups will be performed using an unpaired t-test. This inferential statistical approach will determine whether there is a statistically significant difference in joint mobility outcomes attributable to the intervention

RESULTS

Table No. 1 Frequency and percentage distribution of demographic variables

n= 30 + 30

Sr. no.	Demographic variables		Experimental group		Control group	
			f	%	f	%
1.	Age (in yrs.)	30 – 40	1	3.33	2	6.67
		41 – 50	12	40	13	43.33
		51 – 60	12	40	11	36.67
		61 – 70	2	6.67	2	6.67
		71 – 80	2	6.67	1	3.33
		81 – 90	1	3.33	1	3.33
2.	Gender	Male	17	56.67	16	53.33
		Female	13	43.33	14	46.67
3.	Educational status	No formal education	5	16.67	5	16.67
		Primary education	8	26.67	11	36.67
		Secondary education	2	6.67	4	13.33
		Higher secondary	9	30	6	20
		Under graduation and above	6	20	4	13.33
4.	Occupation	Unemployed	8	26.67	5	16.67
		Employed	1	3.33	4	13.33
		Daily weges	6	20	6	20
		Other	15	50	15	50

- The majority of participants in both groups are aged 41–60 years, with 80% in the

experimental group and 80% in the control group falling in this range.
- Both groups show a comparable gender distribution:
o Experimental group: 56.67% Male, 43.33% Female
o Control group: 53.33% Male, 46.67% Female
- The majority of participants have primary or higher secondary education:
o Experimental group: 26.67% (Primary), 30% (Higher secondary)
o Control group: 36.67% (Primary), 20% (Higher secondary)
- A small portion of the sample has no formal education (16.67%), which may affect their understanding or compliance with interventions.
- Very few participants have undergraduate or higher education, which may reflect the typical education levels in the population under study.44
- Half of the participants in both groups (50%) are classified under "Other" occupations – possibly including homemakers, retired individuals, or informal work not classified separately.
- A significant portion in both groups is unemployed (26.67% in experimental, 16.67% in control), which could correlate with physical inactivity or economic dependency, affecting health outcomes.
- Employment is low in both groups, especially in the experimental group (only 3.33% employed), which may influence the practicality and timing of interventions like foot massage

Table No. 2 Frequency and percentage distribution of clinical variables.

n= 30 + 30

Sr. no.	Clinical variables		Experimental group		Control group	
			f	%	f	%
1.	Duration of disease	Less than 6 months	0	0	0	0
		6 – 12 months	5	16.67	6	20
		1 – 2 years	15	50	15	50
		More than 2 years	10	33.33	9	30
2.	Severity of disease progression	Rapid progression	10	33.33	8	26.67
		Slow progression	20	66.67	22	73.33
3.	BMI	Under weight (less than 18.5)	4	13.33	3	10
		Normal (18.5 to 22.9)	18	60	21	70
		Over weight (23.0 to 24.9)	8	26.67	6	20
		Obesity (25 & more than 25)	0	0	0	0

1. Duration of Disease
- In both groups, no participants had arthritis for less than 6 months, indicating the sample includes chronic cases only.
- The majority of participants in both groups had arthritis for 1–2 years:
o Experimental: 50%
o Control: 50%
- Around one-third had disease for more than 2 years (33.33% experimental, 30% control).
- A smaller group had arthritis for 6–12 months (16.67% experimental, 20% control).
- This suggests that most participants are in the mid to later stage of disease, making them suitable for assessing interventions like foot massage for joint mobility.

2. Severity of Disease Progression
- Slow progression is more common in both groups:
o Experimental: 66.67%

o Control: 73.33%
• Fewer participants experienced rapid progression (33.33% experimental, 26.67% control).
• This indicates that the majority of arthritis cases are progressing gradually, which may positively influence the effectiveness of non-pharmacological interventions like massage
3. Body Mass Index (BMI)
• Most participants fall in the normal BMI range (18.5–22.9):
o Experimental: 60%
o Control: 70%
• A smaller proportion are overweight (23.0–24.9):
o Experimental: 26.67%
o Control: 20%
• A few participants are underweight (<18.5):
o Experimental: 13.33%
o Control: 10%
• Importantly, no participants are obese (BMI ≥25) in either group, which may reduce complications and allows better physical mobility assessment

Table No. 3 Assessment of level of joint mobility of lower limb before intervention in experimental and control group.

n= 30 + 30

Level of joint mobility (pre- test)	**Experimental group**		**Control group**	
	f	**%**	**f**	**%**
< 10 seconds (Normal mobility)	0	0	0	0
10 – 20 seconds (less mobility with or without support)	11	36.67	14	46.67
> 20 seconds (Limited mobility with or without support	19	63.33	16	53.33

Level of Joint Mobility (Pre-Test)
• No participants in either group demonstrated normal mobility (<10 seconds), indicating that all participants had some degree of impaired joint mobility at baseline.
• In the experimental group:
o 11 participants (36.67%) had moderate mobility issues (10–20 seconds).
o 19 participants (63.33%) had severely limited mobility (>20 seconds).
• In the control group:
o 14 participants (46.67%) had moderate mobility issues.
o 16 participants (53.33%) had severely limited mobility

Table No. 4 Assessment of level of joint mobility of lower limb after intervention in experimental and control group.

n= 30 + 30

Level of joint mobility (Post- test)	**Experimental group**		**Control group**	
	f	**%**	**f**	**%**
< 10 seconds (Normal mobility)	0	0	0	0
10 – 20 seconds (less mobility with or without support)	23	76.67	15	50
> 20 seconds (Limited mobility with or without support)	7	23.33	15	50

Level of Joint Mobility (Post-Test)
• No participants in either group achieved normal mobility (<10 seconds), indicating that full recovery was not observed in either group.
• In the experimental group:
o 23 participants (76.67%) showed improvement to moderate mobility (10–20 seconds).
o Only 7 participants (23.33%) remained in the category of severely limited mobility (>20 seconds).

- In the control group:
o 15 participants (50%) improved to moderate mobility.
o However, the remaining 15 participants (50%) continued to have severely limited mobility

Table No. 5 Effectiveness of level of joint mobility of lower limb before and after intervention in experimental group.

n= 30

Experimental group	**Mean**	**S.D.**	**Paired t-test**	**p -value**
Pre- test	21.67	4.1133	- 10.4319	0.00001 < 0.05
Post- test	18.5	3.8124		

Interpretation of Paired *t*-Test Results (Experimental Group)

- The mean joint mobility time in the experimental group decreased from 21.67 seconds (pre-test) to 18.5 seconds (post-test), indicating improved joint mobility after the intervention.
- The standard deviation also slightly reduced (from 4.1133 to 3.8124), showing a mild decrease in variability among participants post-intervention.
- The paired *t*-test value is -10.4319, and the p-value is 0.00001, which is less than the significance level ($p < 0.05$).
- This result is statistically significant, meaning the observed improvement in joint Mobility

Table No. 7 Effectiveness of level of joint mobility of lower limb after intervention in experimental and control group.

n= 30 + 30

The mean joint mobility time in the experimental group decreased from 21.67 seconds (pre-test) to 18.5 seconds (post-test), indicating improved joint mobility after the intervention.

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- The paired *t*-test value is -10.4319, and the p-value is 0.00001, which is less than the significance level ($p < 0.05$).
- This result is statistically significant, meaning the observed improvement in joint Mobility

Table No. 6
Effectiveness of level of joint mobility of lower limb after intervention in experimental and control group.
n= 30 + 30

Post- test	Mean	S.D.	Unpaired t-test	p -value
Experimental group	18.5	3.8124	2.0837	0.0416
Control group	20.7	4.3482		< 0.05

Interpretation of Unpaired *t*-Test Results (Post-Test Comparison)

- The mean post-test joint mobility time was:
o Experimental group: 18.5 seconds (S.D. = 3.8124)
o Control group: 20.7 seconds (S.D. = 4.3482)
- The unpaired *t*-test value is 2.0837, with a p-value of 0.0416.
- Since the p-value is less than 0.05, the result is statistically significant.
- This indicates a meaningful difference in post-test joint mobility between the two groups.

DISCUSSION

Kansya Vati with ghee foot massage is a traditional Ayurvedic therapy believed to enhance lower limb joint mobility in individuals with arthritis. The Kansya metal is known for its detoxifying properties and is thought to draw out toxins through the feet, thereby reducing joint inflammation. Ghee acts as a natural lubricant, improving blood circulation and nourishing tissues, which helps alleviate stiffness. In Ayurvedic medicine, arthritis is commonly associated with an imbalance in Vata Dosha, leading to dryness and rigidity in joints. Kansya metal is said to have grounding effects that balance Vata, while ghee provides the necessary lubrication to reduce pain and stiffness.

The massage technique stimulates marma points—vital energy centers—helping to release muscular tension, enhance nerve conduction, and reduce inflammation in the lower limbs. Ghee's anti-inflammatory properties further contribute to pain relief and swelling reduction. The rhythmic motion of the Kansya bowl promotes lymphatic drainage, aiding in the removal of metabolic waste from joints and surrounding tissues, which helps prevent stiffness. Additionally, foot massage has a calming effect on the nervous system, lowering stress hormones and indirectly supporting pain management and joint function. Regular application of Kansya Vati with ghee may strengthen muscles, tendons, and ligaments around joints, improving mobility and reducing the risk of degeneration.

In this study, participants from Sangli Miraj Kupwad Corporation were selected based on age and arthritis diagnosis. All were above 30 years, with the majority aged between 41–60 years. The experimental group had 56.67% males and 43.33% females, while the control group had 53.33% males and 46.67% females. Duration of joint mobility issues varied, with 50% of participants in both groups reporting symptoms for 1–2 years. Disease progression was slower in most cases, and BMI distribution showed that the majority had a BMI between 18.5 and 22.9. On day one, joint mobility was assessed using the Time Up and Go scale. In the experimental group, 36.67% had moderate mobility (10–20 seconds), and 63.33% had limited mobility (>20 seconds). By day eight, 76.67% of the experimental group showed improved mobility, while only 23.33% remained in the limited category. In contrast, the control group showed minimal change, with 50% in each category. Statistical analysis using unpaired and paired t-tests confirmed a significant improvement in joint mobility in the experimental group, suggesting that Kansya Vati with ghee foot massage is an effective intervention for enhancing lower limb joint mobility in arthritis patients.

CONCLUSION

This study explored the impact of Kansya Vati with ghee foot massage on lower limb joint mobility in arthritis patients. The therapy showed significant improvement in joint movement by reducing stiffness, pain, and inflammation. Kansya metal is believed to detoxify by drawing out toxins through the feet, while ghee enhances circulation, nourishes tissues, and eases stiffness. Together, they help balance Vata dosha, stimulate marma points, and support lymphatic drainage—leading to better joint function.

Participants aged 30 and above were assessed using the Time Up and Go Scale. On day one, 63.33% of the experimental group showed limited mobility (>20 seconds), while 36.67% had moderate mobility (10–20 seconds). After eight days, 76.67% improved to moderate mobility, with only 23.33% remaining limited. The control group showed minimal change, with 50% still experiencing restricted movement.

Statistical analysis confirmed significant improvement in the experimental group. The therapy not only enhanced flexibility and reduced degeneration risk but also helped manage pain through its calming effect on the nervous system. Integrating Kansya Vati with ghee massage may offer a valuable complementary approach to improve mobility and quality of life in arthritis care.

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