



## Effectiveness of Light Pressure Stroking Massage with Sesame Oil in Alleviating Acute Knee Joint Pain among Elderly Adults

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### ABSTRACT

Osteoarthritis (Acute knee joint pain) is a major health problem in the world. This investigation to assess the impact of lightweight stroking knead with effective sesame oil on torment seriousness of patients with knee joint agony. The main aim to determine the effectiveness of light pressure stroking massage with sesame oil on alleviating acute knee joint pain among elderly adults. (Age, Sex, Religion, Marital status, Educational status, Diet habit, Exercise, Body mass index). A pre-test was conducted to assess the WOMAC scale was managed to evaluate the level of pain. A back rub with sesame oil was applied 3 weeks period. A post-test was led to evaluate the adequacy of the intercession. The knee pain level was surveyed by Western Ontario MAC Master Scale. The discoveries were most of the older grown-up individuals 46.7% had moderate pain, 10% had moderate pain, 31.7% had serious pain, 11.6% had extreme pain. After the back rub with sesame oil the knee pain level was diminished to 26.7% had mild pain, 40% had moderate pain, 25% had serious pain, 3% had extreme pain. The finding of the examination uncovered that knead with sesame oil for Knee joint pain was compelling in a huge decrease of the knee joint pain level at the degree of  $p < 0.05$  in the trial gathering. Thusly, because of ease, simple use and absence of unfriendly impact, it is proposed to utilize this oil on integral medication for relief from discomfort.

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### INTRODUCTION

The World Health Organization (WHO) report recognized knee torment, as the eighth driving reason for non-lethal weight on the planet in 2000, representing 2.6 percent of the complete year lost because

of disability (Bhatia *et al.*, 2013). Knee torment is an extremely normal event in the older grownup populace. The knee is the biggest and most complex joint in the body. Wounds and illnesses of the knee are regular wellsprings of handicap, agony and lost days from work. Uneasiness might be related to a wide range of infections. The agony can influence the capacity to move around, take an interest in a day by day exercises and rest serenely (Bhuvaneshwari *et al.*, 2020). The reasons for torment, for the most part, start in the knee joint. Normal reasons for knee torment are osteoarthritis, A torn meniscus (Lin *et al.*, 2004). Rheumatoid joint inflammation or Inflammatory Arthritis, Gout, Knee joint disease, Tendonitis or Bursitis. Osteoarthritis is the most widely recognized reason for knee torment in the older grown-up. Osteoarthritis is the mileage kind of joint inflammation that we are largely dependent upon (Gauthaman and Saleem,

2009). The rate is marginally higher in ladies than men. Expanding paces of corpulence and diminished paces of activity have brought about a pestilence of osteoarthritis in our general public (Hsu *et al.*, 2013). Most patients experience a moderate, steady expansion in agony and expanding. Actually, there is regularly a bandy-legged appearance, particularly with weight-bearing. Inside the knee, a fix like loss of covering ligament on the finish of the bones permits the unresolved issues together. Normally the joint inflammation is additionally connected with a longstanding meniscus tear. Introductory treatment comprises rest, ice, anti-inflammatory drugs, weight reduction and low effect practice program. Injectable greases up are accessible for joint inflammation knee and can briefly decrease indications in moderate cases.

Dietary enhancements are regularly supported (glucosamine and chondroitin); however, have never been demonstrated viable in logical examinations. For serious joint pain, knee substitution medical procedure has incredibly high achievement and patient fulfillment rates (Ingle and Nath, 2008). Entanglement of knee torment is not all knee is not kidding. Be that as it may, some knee wounds and ailments, for example, osteoarthritis, can prompt expanded agony, joint harm and incapacity whenever left untreated (American Geriatrics Society Panel on Exercise and Osteoarthritis, 2001). The extract (oil) acquired from the sesame seeds otherwise called sesamumindicum, is an incredible decision for kneading as it is stacked with a wide assortment of supplements, including nutrients and fundamental minerals, for example, calcium, copper and zinc, which advance digestion just as blood course. The sesame oil additionally helps the creation of red platelets in our body (Boring *et al.*, 2015).

The presence of zinc improves the bone mineral thickness, hence upgrading the nature of bones, copper, then again, shows some critical calming properties, in this manner diminishing the torment and decreasing the growing related with joints. Simultaneously, it additionally fortifies the bones and joints. Sesame oil additionally contains omega-3 unsaturated fats, alongside some mono saturated fats, which are particularly useful for the soundness of our bones. Besides, this oil likewise advances the rate at which the bones develop a lot in the body. Not just that, it likewise accelerates the mending of bones, All these properties together make sesame oil very powerful as a skin drug, and an unmistakable fixing in the greater part of the agony is easing rub oils and treatments. In this manner kneading the joint with sesame oils and salves, subsequently

rubbing the joint with sesame oil benefits in diminishing the torment just as growing, and furthermore fortifies the bones (Mock and Cherian, 2008).

Likewise, lignans, for example, sesamin have been portrayed to alleviate torment. In this investigation, we utilized the Saman brand of sesame oil, which the past examination (Sadeghi *et al.*, 2010), demonstrated the most noteworthy substance of sesamolignans in this brand. In light of late examination, sesamin is one of the dynamic mixes in sesame oil and legitimize the antinociceptive and mitigating properties of this item (Érika Monteiro *et al.*, 2014). However, further investigations are important to comprehend the components of activity and correspond pharmacological movement with a compound piece of sesame oil (Nadler *et al.*, 2004). The examiner came to realize that numerous older are experiencing joint agony, solidness and force the impact on exercises of day by day living. A high dreariness of knee torment needs reinforcing of geriatric medical care administrations both network and clinic-based. Thus, the investigator felt a need to undertake a study to assess the effectiveness of light pressure stroking massage with sesame oil in alleviating acute knee joint pain among elderly adults.

## MATERIALS AND METHODS

A quasi-experimental approach and one group pre and post-test research design were used to conduct the study. The investigator obtained formal permission. The data collected from the 30 subjects from rural community area, Kondanchery, Chennai, who met the inclusion criteria through purposive sampling technique. The investigator obtained the written informed consent. Pre and post-test method was adopted. The demographic variable was collected by a structured questionnaire. The pre-test level knee joint pain was assessed with the Western Ontario Mac Master Scale. Followed by that light pressure stroking massage with sesame oil was given for 20 minutes. This intercession was planned for 6 meetings for 3 weeks. After the 3 weeks, the post-test was directed with a similar scale. The gathered information was investigated with descriptive and inferential statistics.

## RESULTS AND DISCUSSION

### Frequency and percentage distribution of demographic variables among elders

Out of 30 samples, Majority (40%) of the elderly adult were in the age of 41-45 years; females were 60%, (100%) were married, 93.3% were Christians, 23.3% had completed their schooling, 83.3% were

**Table 1: Frequency and percentage distribution of pretest knee pain level among elderly adult people at selected Kondanchery (N=30).**

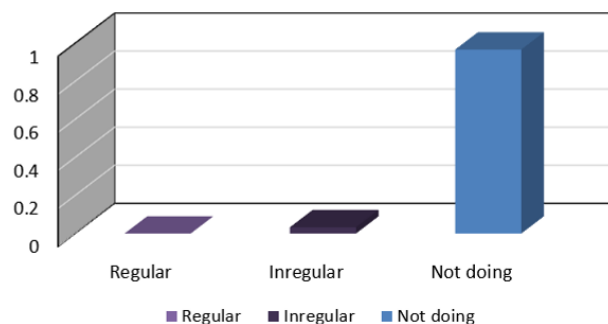
Level of pain	Pretest		Post-test	
	Frequency	Percentage %	Frequency	Percentage %
Mild	5	16.7	18	60
Moderate	16	53.3	7	23.3
Severe	9	30	5	16.7

**Table 2: Effectiveness of light pressure stroking massage with sesame oil on alleviating acute knee joint pain among elderly adult.**

Score	N	Pretest		Post-test		Paired 't'	df	Significance
		M	SD	M	SD			
Level of Knee pain	30	1.9	12.69	0.59	17.03	6.84	29	p<.00001

non-vegetarian, 96.7% did not perform the exercise.

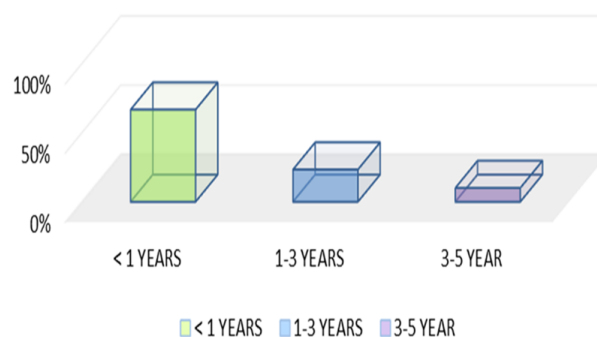
Figure 1 The duration of knee joint pain was 66.7%, 23.3% and 10% since 0-1, 1-3 and 3-5 years respectively. Figure 2 Regarding the type treatment, 20% had taken alternative. 33.3% external and 46.7% oral. Figure 3 In respect of body mass index 26.7%, 23.3% and 40% had <18.5, 18.5-25 and 25-30 respectively.



**Figure 1: Percentage distribution of sample according to exercise.**

The above table clarifies that the degree of knee joint pain among old grown-up individuals before knead with sesame oil. The 16.7% of old grown-up individuals had gentle knee joint pain, 53.3% of old grown-up had moderate knee joint pain and 30% of old grown-up individuals had extreme knee joint pain, before use of back rub with sesame oil. Concerning test results show that 60% of older grownup individuals had none knee joint pain 23.3% had Mild knee joint pain and 16.7% had moderate knee joint pain after the utilization of back rub with sesame oil Table 1. The mean pretest knee pain level was 1.9, with a standard deviation of 12.69 and the post-test mean was 0.59, with a standard deviation of 17.03 individually. The test

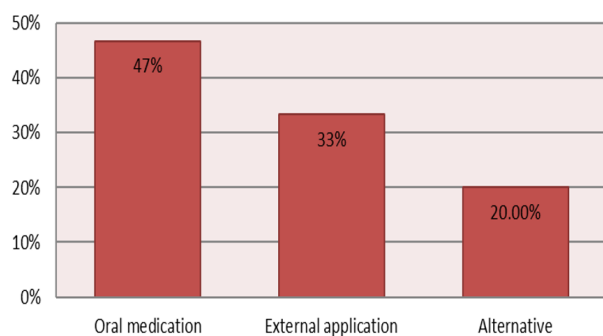
criticalness of was count utilizing matched t-test. The got t value is 6.84, which was huge p<.00001. Table 2 The relationship between posttest knee pain level decrease score and their demographic factors. Statistical significance determined utilizing chi-square. Age ( $X^2 = 6.075$ ,  $p < .047955$ ), Exercise ( $X^2 = 2.9814$ ,  $p < .084228$ ), Body max index ( $X^2 = 10.0974$ ,  $p < .017756$ ). Were essentially connected with the posttest level of knee pain. Apart from these different factors were not significantly related. Osteoarthritis is the third driving reason for infection trouble and the fourth most significant reason for handicap on the planet. It was as of late assessed that since 1990, the predominance of joint pain has expanded by 750000 cases for every year (Rabenda et al., 2006).



**Figure 2: Percentage distribution of sample according to duration of knee joint pain.**

The current examination demonstrated that the meantime of considered example was out of 30 samples, Majority (40%) of the old grown-up ere in the age of 41-45 years. What's more, the excess was above 35-40 years (33.3%) and having a place with 46-50years (26.6%). This finding is predictable with (Sarzi-Puttini et al., 2005) who revealed that

the rate of osteoarthritis increases with age and the pervasiveness increments generously after the age of 50 years in lady and 55 years in men. Concerning, Puttini et al. referenced that knee osteoarthritis is regular in a lady than men. This is in accordance with the consequences of the current examination, which expressed that, 75% of considered example were females. Our examination finding likewise male and females were 40 and 60 rates individually. Present study viability of lightweight with sesame oil knead results shows that the mean pretest knee torment level was 1.9 with a standard deviation of 12.69 and the post-test mean was 0.59 with a standard deviation of 17.03 separately. The test centrality of was estimation utilizing combined t-test. The acquired t esteem is 6.84, which was critical  $p < .00001$ .



**Figure 3: Percentage distribution of the sample according to a type of treatment.**

(Hsu et al., 2013) affirmed that one hundred and four patients were haphazardly selected two arms of the preliminary. Patients were treated by effective sesame oil or diclofenac for about a month. Result measures were knee torment through simple visual scale, Western Ontario and McMaster colleges osteoarthritis record survey, knee joints flexion analgesics. Patients were and a number of utilized analgesics. Patients were assessed at the gauge, 2 and afterwards a month after the medication. It appears to be that the skin sesame oil was non-mediocre compared to diclofenac gel on the decrease of the knee OA agony and improvement of certain pointers of its function. In connection to the results of the diverse treatment modalities, it was presumed that redness happened in more than 33% of contemplated test in the wake of applying the warm treatment (Sadeghi et al., 2010).

This outcome corresponds with (Nadler et al., 2004) who summed up that warm modalities furnish critical relief from discomfort with low results (Saleem et al., 2011). The association between posttest knee pain level reduction score and their demographic variables. Statistical significance calcu-

lated using chi-square. Age ( $X^2 = 6.075$ ,  $p < .047955$ ), Exercise ( $X^2 = 2.9814$ ,  $p < .084228$ ), Body max index ( $X^2 = 10.0974$ ,  $p < .017756$ ). Were significantly associated with the posttest level of knee pain. It is summed up in an investigation (Coggon et al., 2001) that, a higher weight file essentially associated with an expanded danger of joint substitution because of osteoarthritis. This is in concurrence with the discoveries of this examination that demonstrated that the mean weight list of the considered example was  $37.65 \pm 5.6 \text{ kg/m}$  (Sarzi-Puttini et al., 2005). Likewise, (AlBlooshi et al., 2016) referenced that the weight record of the example was  $36.75 \pm 5.16 \text{ kg/m}$  (AlBlooshi et al., 2016). Hence, there is a critical distinction in the degree of knee torment when lightweight stroking kneads with sesame oil was acknowledged.

## CONCLUSIONS

Community health nurse assumes a significant function in wellbeing advancement and avoidance of sicknesses in the geriatric populace. Knee torment is more normal in Geriatric individuals. This problem is very regular and frequently brought about the interference of exercises of day by day living. In inferential measurements, this examination demonstrated that there is a decrease in the Knee torment level after knead with sesame oil among older individuals when contrasted and pretest. This option and corresponding method facilitate that the elderly individual to adapt to the desolate and knee torment decrease in a shorter span. These exploration based proof can be applied in the clinical arrangement the individuals who experienced knee torment.

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The authors declare that they have no funding support for this study.

## Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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