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 intervention. 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
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 kiding. 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 unmistakably 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 sesamol-lignans 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 (Erika 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 non-vegetarian, 96.7% did not perform the exercise.
Table 1: Frequency and percentage distribution of pretest knee pain level among elderly adult people at selected Kondanchery (N=30).

| Level of pain | Pretest Frequency | Pretest Percentage % | Post-test Frequency | Post-test 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 M | SD | Post-test M | SD | Paired ’t’ | df | Significance |
|--------------------------------|-----|-----------|----|-------------|----|------------|----|-------------|
| Level of Knee pain             | 30  | 1.9       | 12.69 | 0.59        | 17.03 | 6.84       | 29 | p<.00001    |

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.

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 (X²=6.075, p<.047955), Exercise (X²=2.9814, p<.084228), Body max index (X²=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 1: Percentage distribution of sample according to exercise.

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 46-50 years (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 testeem is 6.84, which was critical p<.00001.

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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Conflict of Interest

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

REFERENCES

AlBlooshi, A., et al. 2016. Increasing obesity rates in school children in United Arab Emirates. Obesity Science & Practice, 2(2):196–202.

American Geriatrics Society Panel on Exercise and Osteoarthritis 2001. Exercise prescription for older adults with osteoarthritis pain: consensus practice recommendations. A supplement to the AGS Clinical Practice Guidelines on the management of chronic pain in older adults. Journal of the American Geriatrics Society, 49(6):808–823.

Bhatia, D., et al. 2013. Current interventions in the management of knee osteoarthritis. Journal of
Pharmacy and Bioallied Sciences, 5(1):30–38.

Bhuvaneswari, G., et al. 2020. A study to assess the effectiveness of calotropis gigantea and infrared therapy on knee pain among elderly people. *International Journal of Traditional and Complementary Medicine*, 3(2):23–26.

Boring, M. A., et al. 2015. Prevalence of Arthritis and Arthritis-Attributable Activity Limitation by Urban-Rural County Classification - the United States. *Morbidity and mortality weekly report*, 66(20):527–532.

Coggon, D., et al. 2001. Knee osteoarthritis and obesity. *International Journal of Obesity*, 25:622–627.

Érika Monteiro, et al. 2014. Antinociceptive and Anti-Inflammatory Activities of the Sesame Oil and Sesamin. *Nutrients*, 6(5):1931–1944.

Gauthaman, K., Saleem, T. M. 2009. Nutraceutical value of sesame oil. *Pharmacognosy Reviews*, 3(6):264–269.

Hsu, D. Z., et al. 2013. Therapeutic effects of sesame oil on monosodium urate crystal-induced acute inflammatory response in rats. *SpringerPlus*, 2(1):659(1–10).

Ingle, G. K., Nath, A. 2008. Geriatric health in India: Concerns and solutions. *Indian Journal of Community Medicine*, 33(4):214–218.

Lin, S. Y. C., et al. 2004. Community rehabilitation for older adults with osteoarthritis of the lower limb: a controlled clinical trial. *Clinical Rehabilitation*, 18(1):92–101.

Mock, C., Cherian, M. N. 2008. The Global Burden of Musculoskeletal Injuries: Challenges and Solutions. *Clinical Orthopaedics and Related Research*, 466(10):2306–2316.

Nadler, S. F., et al. 2004. The physiologic basis and clinical applications of cryotherapy and thermotherapy for the pain practitioner. *Pain Physician*, 7(3):395–399.

Rabenda, V., et al. 2006. Direct and indirect costs attributable to osteoarthritis inactive subjects. *Journal of Rheumatology*, 33(6):1152–1158.

Sadeghi, N., et al. 2010. The contents of sesamol in Iranian sesame seeds. *Iranian Journal of Pharmaceutical Research*, 8(2):101–105.

Saleem, T. M., et al. 2011. Analgesic, Anti-pyretic and Anti-inflammatory Activity of Dietary Sesame Oil in Experimental Animal Models. *Pharmacologia*, 2(6):172–177.

Sarzi-Puttini, P., et al. 2005. Osteoarthritis: An overview of the disease and its treatment strategies. *Seminars in Arthritis and Rheumatism*, 35(1):1–10.