

A Study to Assess the Effectiveness of Calotropis Gigantea and Infrared Therapy on Knee Pain among Elderly People

Dr. Bhuvaneshwari G^{1*}, Kadirvelu Divya², Kavya K Nair¹, Mohana², Mukundhan Kumar¹

¹Associate Professor, Department of Community Health Nursing, Saveetha Medical College, SIMATS, Chennai, India

²BSc (Nursing) IV Year, Saveetha College of Nursing, SIMATS, Chennai, India

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*Corresponding author: Dr. Bhuvaneshwari G

Abstract

Ageing is a natural phenomenon that is experienced by all living organisms. Healthy geriatric population makes major contribution to the health and development of the country. Musculoskeletal pain is a major health problem among geriatric population according to the survey under taken in both developing and developed countries. Knee and low back pain are the most frequent complaints among this population. Most of the geriatric population is troubled by chronic knee pain that has a main effect on their quality of life. The objectives of the study is to assess the pre and post-test level of pain on elderly client with knee joint pain, to determine the effectiveness of Calotropis gigantea and infrared therapy on knee joint pain among elderly people and to associate between the post-test level pain on intervention for knee joint pain among elderly client. 25 samples were selected by purposive sampling technique. Demographic variables was collected by interview method followed by assessed the level of knee joint pain among elderly people. The data was analysed by using descriptive and inferential statistics. The result shows that there is a positive result of Calotropis gigantea and infrared rays for knee joint pain among elderly people.

Keywords: Elderly people, Knee joint pain, Calotropis gigantea, Infrared therapy.

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INTRODUCTION

Ageing is a natural phenomenon that is experienced by all living organisms. Healthy geriatric population makes major contribution to the health and development of the country [1]. Live well, eat well and be positive. Those who have survived to old age should be well informed about the ways to prevent disease and to maintain the quality of life to extend their survival. Various diseases that commonly affect the geriatric population are musculoskeletal pain, heart disease, asthma and other diseases [2].

Musculoskeletal pain is a major health problem among geriatric population according to the survey under taken in both developing and developed countries [3]. Knee and low back pain are the most frequent complaints among this population. Most of the geriatric population is troubled by chronic knee pain that has a main effect on their quality of life. High prevalence of knee joint pain was reported by various authors i.e., 46% among 60 years and 40.7 % among 65 years and above [4].

Pain is a distressing feeling often caused by intense or damaging stimuli. The International Association for the study of pains widely used definition, defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Pain motivates the individual to withdraw from damaging situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future [5].

Osteoarthritis (OA) is a chronic, progressive and disabling joint disease characterized by degenerative change in bones, cartilage, menisci, ligament and synovial tissue. It can occur in every synovial joint, but most common in hip and knee joint. This is most common cause of locomotors disability in the elderly [6]. OA is more common in women than men but prevalence increases dramatically with age. 45% of women over the age of 65 have symptoms while radiological evidence is found in 70% of those over 65 years. A survey by WHO, in 2000 revealed that incident and prevalence of OA increases with age, In worldwide 9.6 % of men and 18% of women who aged > 60 years have symptomatic OA [7].

Pain, stiffness, joint swelling , coarse crepitus , limitations in walking stair climbing and squatting are common in patients with osteoarthritis of knee which greatly interferes with activities of daily living. Most research on knee OA has attempted to quantify the magnitude of physical disability associated with this disease and the impact of various treatments on the outcomes such as pain severity and physical functioning. However, the physical manifestations of knee OA have direct impact on the other aspects of patients living such as social interactions, mental functioning and sleep quality etc.. Has a significant negative impact on the health related quality of life [8].

Adjuvant induced arthritis is a chronic crippling , skeletomuscular disorder having nearest approximation to human rheumatoid arthritis for which no medicine is available effecting a permanent cure in the recent times . The modern drugs both steroids and NSAIDS drugs are used for the amelioration of the symptoms of the disease, however only temporary relief and also produce severe side effects. Therefore, increasing efforts are being directed toward the development of drugs with long acting anti-inflammatory effect with the minimum side effects. In view of these, at present a search had been made from the traditional remedies to find a drug that will be effective and will offer a long time relief in arthritis [9].

Calotropis gigantea belong to the family Asclepiadaceous is a shrub or small tree 8-10 feet high, bearing unscented, pale purple or white flowers with spreading corolla lobes. This species is common throughout India. The leaves are useful in the treatment

of paralysis, arthralgia, swelling and intermittent fever. In traditional medicine, the leaves of calotropis gigantean are used for rheumatism [10].

Infrared therapy is a controversial alternative medicine treatment. It’s a method of exposing tissue to low level of red and near – infrared light .It is more effective in treatment of knee pain due to injury or osteoarthritis [11].

OBJECTIVES

- To assess the pre andpost-test level of pain on elderly client with knee joint pain.
- To determine the effectiveness of Calotropis gigantea and infrared therapy on knee joint pain among elderly people.
- To associate between the post-test level pain on intervention for knee joint pain among elderly client.

METHODS AND MATERIALS

An experimental study was chosen to assess the effectiveness of Calotropis and infrared therapy on knee joint pain among elderly people at kizhachery. 25 samples were taken who comes under the inclusive criteria by using non probability convenience sampling technique. Data was collected by using demographic variables which include age, sex, occupation, marital status and numerical pain scale. The tools were translated to Tamil language. Informed consent was obtained and data was collected from the sample. The data were analyzed by inferential statistics.

RESULTS

Table-1: Frequency and percentage distribution of demographic variables of elderly rural people in kilachery

S. No	Demographic Variable	Frequency	Percentage
1	Age		
	a) 60-65 years	6	24%
	b) 66-70 years	15	60%
	c) 71-75 years	4	16%
2	Sex		
	a) Female	18	72%
	b) Male	7	28%
	c) Transgender	0	0 %
3	Religion		
	a) Hindu	19	76%
	b) Muslim	2	8%
	c) Christian	4	16%
4	Dietary pattern		
	a) Vegetarian	3	12%
	b) Non -Vegetarian	0	0%
	c) Both	22	88%
5	Socio-Economic status		
	a) < 5000/ month	7	28%
	b) > 5000/ month	0	0%
	c) No salary	18	72%
6	Occupation		
	a) Cooli	1	4%
	b) Farming	1	4%
	c) No job	23	82%

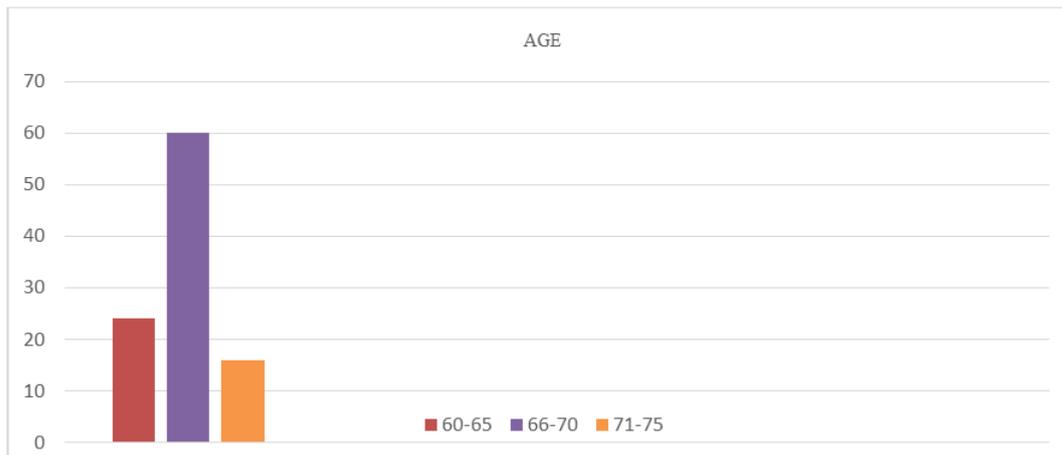


Fig-1: Frequency and percentage distribution of age among elderly people

Table-2: Frequency and percentage distribution of the post- test level of knee joint pain of the study participants

Level of Pain	Frequency	Percentage
Mild pain	10	40%
Moderate Pain	15	60%
Severe Pain	0	0%
Total	25	100%

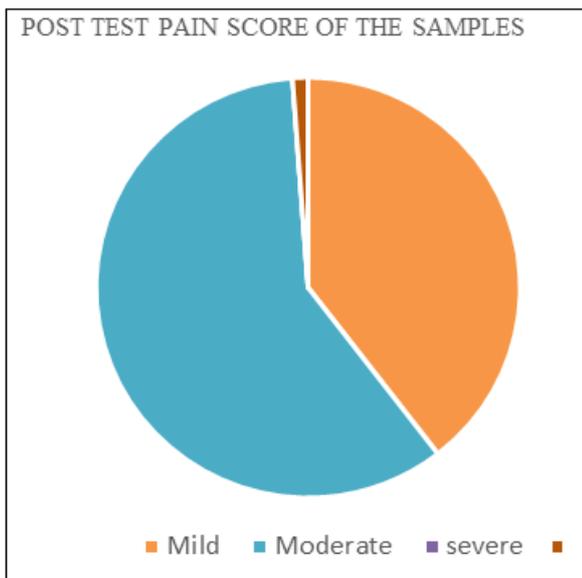


Fig-2: Frequency and percentage distribution of the post- test level of knee joint pain of the study participants

DISCUSSION

DEMOGRAPHIC VARIABLES

Out of 25 samples majority of the people are females 18(72%). Most of them are age group of 66-70 years 15(60%) and above 60 years 6(24%). Most of them have mixed dietary pattern 22(88%). The majority population does not have any salary 18(72%). Most of the people were housewife 82 % and 4% are farming [12].

POST TEST LEVEL OF KNEE JOINT PAIN

Showed that majority of the people had moderate pain 60% and 10% of mild pain and 0% have severe pain on effectiveness of Calotropis gigantea and infra-red therapy on knee joint pain among elderly people in kizhacheri rural village.

REFERENCE

1. Cavallo, C. M., Hlavaty, T. M., & Tamase, M. G. (2002). A pilot study for the development of a primary prevention program regarding knee pain Work IOS Press; 20, 137–158.
2. Cottalorda, J., Rahmani, A., Diop, M., Gautheron, V., Ebermeyer, E., & Belli, A. (2003). Influence of school bag carrying on gait kinetics. *Journal of Pediatric Orthopaedics B*, 12(6), 357-364.
3. Dianat, I., Javadivala, Z., Asghari-Jafarabadi, M., Hashemi, A., & Haslegrave, C. M. (2012). The use of schoolbags and musculoskeletal symptoms among primary school children: are the recommended weight limits adequate? *Ergonomics*, 56(1), 79-89.
4. El-Metwally, A., Salminen, J. J., Auvinen, A., Kautiainen, H., & Mikkelsen, M. (2004). Prognosis of non-specific musculoskeletal pain in preadolescents: a prospective 4-year follow-up study till adolescence. *Pain*, 110(3), 550-559.
5. Forjuoh, S. N., Lane, B. L., & Schuchmann, J. A. (2003). Percentage of body weight carried by students in their school backpacks. *American Journal of Physical Medicine Rehabilitation*, 82, 261-266.
6. Grimmer, K. A., Williams, M. T., & Gill, T. K. (1999). The associations between adolescent head-on-neck posture, backpack weight, and anthropometric features. *Spine*, 24(21), 2262-2267.
7. Grimmer, K., & Williams, M. (2000). Gender-age environmental associates of adolescent low back pain. *Applied Ergonomics*, 31(4):343-360.
8. Guyer, R. L. (2001). Backpack = back pain, *American Journal of Public Health*, 91(1):16-19.

9. Haselgrove, C., Straker, L., Smith, A., O'Sullivan, P., Perry, M., & Sloan, N. (2008). Perceived school bag load, duration of carriage, and method of transport to school are associated with spinal pain in adolescents: An observational study. *Australian Journal of Physiotherapy*, 7:193-200.
10. Hong, Y., & Brueggemann, G. P. (2000). Changes in gait patterns in 10-year-old boys with increasing loads when walking on a treadmill. *Gait Posture*, 11, 254-259.
11. Hong, Y., Li, J. X., Wong, A. S., & Robinson, P. D. (2000). Effects of load carriage on heart rate, blood pressure and energy expenditure in children. *Ergonomics*, 43:717-727.
12. Infotrack East Africa. (n.d.). Mathare Constituency. Retrieved 22 August 2014. from <http://www.infotrackea.co.ke/services/leadership/constituencyinfo.php?conf=wards&t=29>.