

# A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME OF ISOMETRIC EXERCISE ON PAIN PERCEPTION, FUNCTIONAL MOBILITY AND ANXIETY LEVEL OF OLD AGE PEOPLE WITH JOINT PAIN IN SELECTED OLD AGE HOMES AT KARAİKAL

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**Abstract:**osteoarthritis is the most common musculoskeletal condition affecting the quality of life in older adults. It is a chronic, progressive musculoskeletal disorder characterized by gradual loss of cartilage in joints which results in bones rubbing together and creating stiffness, pain, and impaired movement. The disease most commonly affects the joints in the knees, hips, hands, feet, and spine. Isometric exercises are a type of strengthening exercise which involves the static contraction of muscle without any visible movement in the angle of the joint. Isometric is the combined Greek term of prefix “**Iso**” means “**same**” with “**metric**” means “**distance**”,though contraction strength may varied. Exercise is the better means for the sufferer with the osteoarthritis for better relaxation and improving the functional mobility thereby the perceived anxiety level of the old age will be reduced .hence a study aimed to assess the effectiveness video assisted teaching program me of isometric exercise on improvement of pain perception, functional mobility and level of anxiety .pre experimental research design was used with 60 samples who satisfy the inclusion criteria were selected by using the purposive

sampling technique. Demographic variables were collected by using interview method. The functional performance was assessed by using modified WOMAC scale. out of 60 samples ,in pre test 35 (58.3 %) old age comes under moderate level of functional performance , 25 (41.7%) comes under mild level of functional performance .in post test , 30(50%) Of old age comes under moderate level of functional performance and 30(50%) comes under mild level of functional performance .There is a poor pre test scoring among 60 samples .The result revealed that video assisted teaching on isometric exercise is most effective and there is a significant improvement in the functional performance of old age people with osteoarthritis .isometric exercise is the most effective method for improving functional performance .

**Keywords:**osteoarthritis, Isometric Exercise, WOMAC scale, old age

## 1. Introduction

Ageing or aging (see spelling differences) is the process of becoming older. In humans, ageing represents the accumulation of changes in a human being over time, encompassing physical, psychological, and social changes. Ageing is among the greatest known risk factors for most human diseases: of the roughly 150,000 people who die each day across the globe, about two thirds die from age-related causes.(**Wikipedia**)By 2050, the world's population aged 60 years and older is expected to total 2 billion, up from 900 million in 2015. Today, 125 million people are aged 80 years or older. By 2050, there will be almost this many (120 million) living in China alone, and 434 million people in this age group worldwide. By 2050, 80% of all older people will live in low- and middle-income countries.(**WHO 2018**)Osteoarthritis (OA) grade in India. In Indian impact, nearly 80% of population shows OA among the patient who claimed for knee pain, out of which approximately 20% reported incapability in daily activities and around 11% need peculiar care (**Hinman RS Ringdahl E et al, 2011**). Approximately 40% population of more than 70

years shows OA, in which nearly 2% have severe knee pain and disability (**Jain S, 2011**).Increment in age exponentially increases the allied risk of OA, due to progressive changes in routine diet, working milieu conditions and lifestyle patterns Nearly 80% population with radiographic evidence of OA were estimated but only 60% shows symptomatically. This prevalence has 62:38 female vs. male ratio (**Srinivas P et al, 2014**).Osteoarthritis primarily affects the elderly population. It is a major cause of disability in older adults worldwide. **According to World Health Organization (WHO)** 9.6% of men and 18.0% of women aged over 60 years have symptomatic osteoarthritis worldwide. 80% of those with osteoarthritis have limitations in movement, and 25% cannot perform their major daily activities of life.Exercise is one of the best method to treat osteoarthritis. From the literature review it is quite evident that isometric exercises are beneficial to improve the functional mobility of joints and reduce pain an old age people. When the mobility increases, intensity of joint pain decreases. The isometric exercises does not take much time, requires no special equipment, except a comfortable place to do

the exercises. It is a simplest technique, which is considered to be appropriate for the low socio

economic status, and easily applicable for the old age people. (**Indian Academy Of Arthritis 2013**)

## 2. Objectives

1. To assess the level of Pain perception, Functional mobility and Anxiety of old age people with joint pain.
2. To assess the effectiveness of video assisted teaching programme of isometric exercises on pain perception, functional mobility and anxiety level of old age people with joint pain.
3. To associate the pre test level of pain perception, functional mobility and anxiety of old age people with selected demographic variables.

## 3. Materials and Methods

The research approach adopted in the study was quantitative approach by using pre experimental research design. Formal permission was obtained from St, Josephs

convent hospice, karaikal .60 old age peoples with joint pain was selected by using purposive sampling technique .after the sample selection informed consent was obtained from each sample. Demographic variables consists of age, gender, marital status ,educational status, type of family ,income ,BMI , diet and use of drugs .demographic variables were collected by using interview method followed by assessed the physical function by using the WOMAC scale. Isometric exercises were taught to the inmates by video assisted teaching .The programme was conducted twice daily for duration of 30 minutes .after 4 weeks the post test level of pain was assessed by numerical pain scale& physical function was assessed by WOMAC Scale .the data was analyzed by using descriptive and inferential statistics'

33(55%) were falls under the category of Christianity ,Regarding the life style practices 25 (41.7%) were following some other measures for pain control other than breathing exercises ,yoga , meditation .Regarding the location of pain 48(80%) of them were experiencing pain in the lower extremities

**Table II** :shows the comparison of pain during the pre test and post test . During pre-test (10%) of old age people with joint pain had mild pain, (78%) had moderate pain, (11.7%) had severe pain, whereas during post- test (56.7%) of old age people with joint

## 4. Results and Discussions

**Table –I** shows that out of 60 samples 29(48.3%) belongs to the age group of 66-70 years .Regarding educational status 19(31.7%) were uneducated and the same percentage were completed their secondary education, Regarding the number of childrens 27(45%) are having 2 childrens ,regarding the marital status 39(65%) were married ,under the religion

pain had mild pain, (35%) had moderate pain, (8.3%) had severe pain.

**Table III:** shows the level of functional mobility before and after the intervention .During pre-test (58.3%) of old age people with joint pain had moderate level of functional mobility, (41.7%) had mild functional mobility, whereas during post- test (50%) of old age people with joint pain had moderate level of functional mobility, (50%) had mild functional mobility.

**Table IV:**shows the anxiety level of old age before and after the intervention. During pre-test (60%) of old age people with joint pain had moderate anxiety, (40%) had severe anxiety, whereas during post-test (83.3%) of old age people with joint pain had moderate anxiety, (16.7%) had severe anxiety

**Table V :**shows the comparison of mean and standard deviation of pre-test and post-test level on pain perception, functional mobility, and anxiety of old age people with joint pain.post test score is decreased than mean percentage of pre test score. Pre-test mean score was 46.78 with SD of 7.152 which is 58.85% of the total mean score , whereas in post test the mean score was 44.39 with SD of 8.287 which is 51.98% of the total mean score. High difference obtained in the effectiveness of video assisted teaching Programme of isometric exercises on pain perception, functional mobility and anxiety of old age people with joint pain is from 58.85% to 51.98%. So, The video assisted teaching Programme of isometric exercise, decrease the pain perception and anxiety and the level of functional mobility was increased.

#### 4. Discussion:

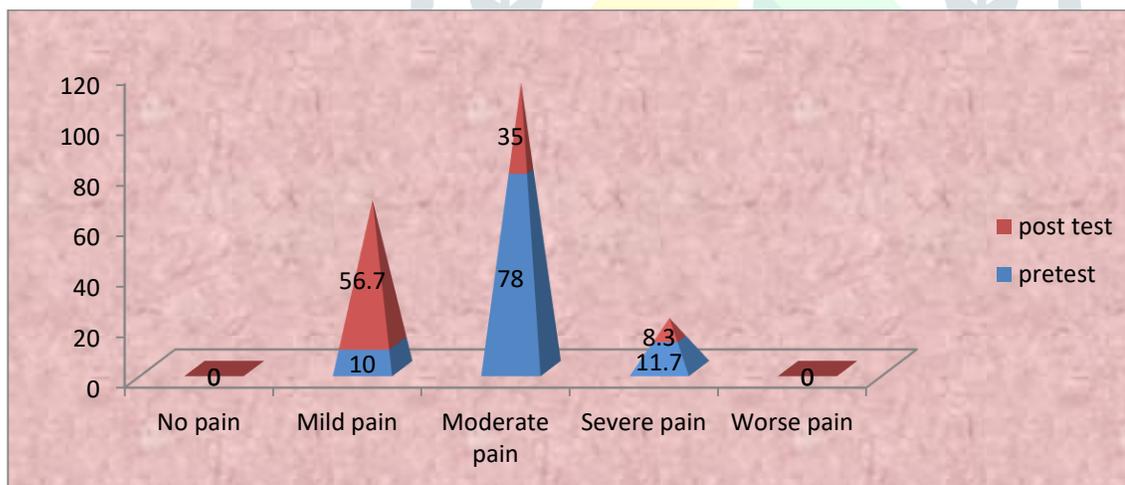
**Table 1: Frequency and distribution of the demographic variables among the old age in osteoarthritis**

Sl. no	Demographic Variables	Frequency (N)	Percentage (%)
1	<b>Age group</b>		
	60-65 years	18	30
	66-70 years	29	48.3
	71-75 years	13	21.7
2	<b>Education</b>		
	Primary	21	35
	Secondary	19	31.7
	Higher secondary	1	1.7
	Uneducated	19	31.7
3	<b>No.ofchildren</b>		
	1	9	15
	2	27	45.0
	3	20	33.3
	More than 3	4	6.7
4	<b>Marital status</b>		
	Married	39	65
	Divorced	7	11.7

	Separated	14	23.3
5	<b>Religion</b>		
	Hindu	25	41.7
	Muslim	1	1.7
	Christian	33	55
	Others	1	1.7
6	<b>Life style</b>		
	Breathing exercises	22	36.7
	Yoga	4	16.7
	Meditation	9	15
	Others	25	41.7
7	<b>Location of the pain</b>		
	Neck	1	1.7
	Upper extremities	11	18.3
	Lower extremities	48	80

**Table II: Comparison of pre-test and post-test level on pain perception of old age people with joint pain.**

Sl. No	Pain	Pre test		Post test	
		Frequency	%	frequency	%
1	No pain	0	0	0	0
2	Mild pain	6	10.0	34	56.7
3	Moderate pain	47	78.0	21	35.0
4	Severe pain	7	11.7	5	8.3
5	Worse pain	0	0	0	0



**Figure II pre-test and post-test level on pain perception of old age people with joint pain.**

**Table III : Comparison of pre-test and post-test level on Functional mobility of old age people with joint pain.**

Sl. No	Functional Mobility	Pre Test		Post Test	
		Frequency	%	Frequency	%
1	Severe	0	0	0	0
2	Moderate	35	58.3	30	50.0
3	Mild	25	41.7	30	50.0

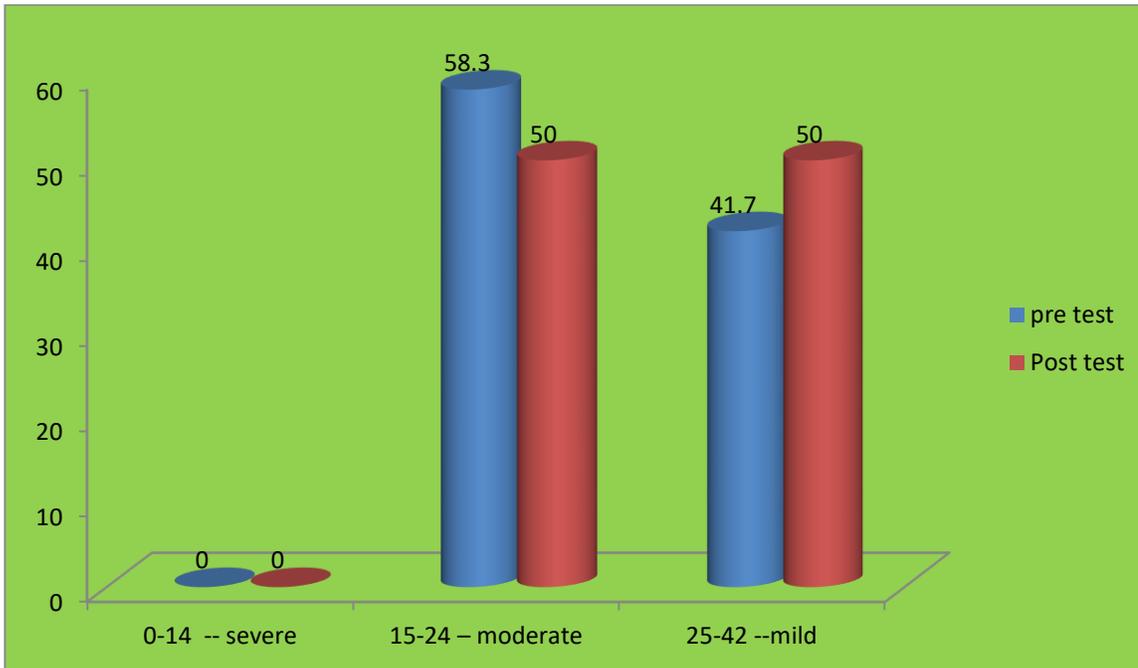


Figure III:pre-test and post-test level on Functional mobility of old age people with joint pain.

Table IV:Comparison of pre-test and post-test level on anxiety of old age people with joint pain.

Sl. No	Anxiety	Pre test		Post test	
		Frequency	%	frequency	%
1	Mild anxiety	0	0	0	0
2	Moderate anxiety	36	60.0	50	83.3
3	Severe anxiety	24	40.0	10	16.7

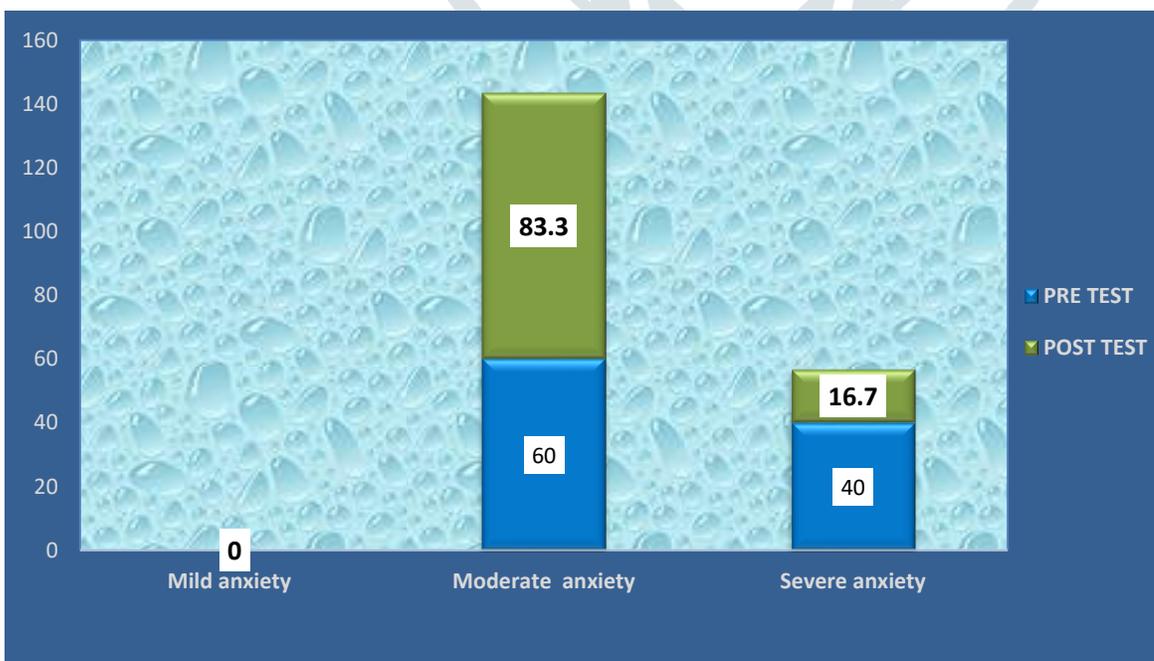


Figure IV: pre-test and post-test level on anxiety of old age people with joint pain.

## CONCLUSION

Before implementing of video assisted teaching programme of isometric exercises among old age people obtained mean percentage is 58.85 of the total mean score reveals that the old age people have increased pain and anxiety and decreased functional mobility. Whereas after the video assisted teaching programme regarding isometric exercise among old age people are decreased to 51.98 of the total mean score which proves that the video assisted teaching programme was effective in reducing the pain and anxiety and improving the functional mobility regarding isometric exercise among old age people with joint pain .

## RECOMMENDATIONS

The study recommends the following for further research,

- A similar study can be conducted in different settings with large samples.
- A comparative study to assess the old age people with joint pain among males and females.
- A study to assess the effectiveness of aromatherapy preparation among old age people with joint pain.
- A comparative study to assess the effectiveness of isometric exercise and yoga for old age people with joint pain.

## References:

- Alindran M. (2008) “**Exercise perception for knee Osteoarthritis**”, Journal Of American Physiotherapy, Page.No 479 – 481.
- Angela Hoyle (2003) “**Acupuncture in Osteoarthritis knee pain**”, Journal Of Physiotherapy Page. No 89.

- Azad CS, Singh AK et.al., (2015) “**Epidemiology Of Osteoarthritis And Its Association With Ageing**”, International Research Journal Of Management Science And Technology, Page No 21-39.
- Chandra Prakash Pal, Pulkesh Singh et.al., (2016), “**epidemiology of knee osteoarthritis in India and related factors**”, Indian Journal Of Orthopedics , Page. No 518-522.
- Chandra Shekhar Azad et.al., (2017), “**osteoarthritis in India: An Indian epidemiology aspect**”, International Journal Of Recent Scientific Research, Page. No 20918-20922.
- Espen H (2008) “**Physical therapy interventions for patients with Osteoarthritis of the knee**”, Journal of Physical Therapy.