



## RESEARCH ARTICLE

### A STUDY TO ASSESS THE EFFECTIVENESS OF STRETCHING EXERCISES ON JOINT PAIN AMONG OBESE WOMEN IN SELECTED AREAS AT PUDUCHERRY

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#### ARTICLE INFO ABSTRACT

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**Background:** Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Pain is an abstract concept which refers to a personal, private, and sensation of hurt, a harmful stimulus with signal current or pattern of responses. A person in pain feels distress or suffering and seeks relief. Pain is much more than a physical sensation caused by specific stimulus. **Objectives:** (1) To assess the pre-test and post-test level of joint pain among obese women in both control group and experimental group. (2) To evaluate the effectiveness of stretching exercise to reduce joint pain among obese women in experimental group and compare with control group. (3) To find the association between post-test level of joint pain among obese women with selected demographic variables. **Methodology:** A Total 50 obese women were selected by using simple random sampling technique and true experimental (one group pretest and posttest control group design) was adopted for the study. The data collection was divided into two sections in which section (a) contains socio demographic variables and section (b) contains Lysholm knee scoring scale. Pretest was conducted in both control group and experimental group by using perceived Lysholm knee scoring scale. Stretching exercise intervention was given to experimental group for 10 minutes twice in a day for 6 days. And post test was conducted in both control group and experimental group using perceived Lysholm knee scoring scale. Data analysis was done using descriptive and inferential statistics. **Results:** The study findings revealed that, posttest of true experimental group mean score was 14,500 with standard deviation 4.88284 was higher when compared to pretest mean score of 23.2000 with the standard deviation 5.69025 and it was statistically significant at the value of  $p < 0.0001$  and the posttest level of Lysholm knee scoring scale was associated with history of joint pain and it was significant at the level of  $p < 0.001$ . The study concluded that stretching exercise was effective to reduce the joint pain among obese women in experimental group when compared to control group. **Conclusion:** The study concludes that stretching exercise was effective and helped to reduce the level of joint pain among the obese women.

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## INTRODUCTION

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage. Pain is an abstract concept which refers to a personal, private, and sensation of hurt, a harmful stimulus with signal current or pattern of responses which operate to protect the organism from harm. (1) Joint pain is a common musculoskeletal complaint now a days people are suffering. It includes injuries and acute or chronic inflammation of the joint, tendons, and surrounding ligaments. Everyone has experienced some type or degree of pain (2). A person in pain feels distress or suffering and seeks relief. Pain is much more than a physical sensation caused by specific stimulus. The pain experience is complex, involving physical, emotional and cognitive components. Pain is subjective and highly individualized. Pain cannot be objectively measured, only the client knows whether pain is present. (3)

A sudden environment such as extreme cold or heat and extreme of humidity can affect the characteristics of pain. e.g sudden exercise on a hot day can cause a muscle spasm physical and emotional stressors can also precipitate pain. Factors like sleep appetite, concentration, work school, interpersonal relationships, marital relationship, sex, home activities, driving, walking, leisure activities, emotional status influences pain. (4) Pain can be described in terms of duration (acute pain, chronic pain) origin (cutaneous, deep, somatic, visceral) and location (radiating, referred pain, intractable pain, neuropathic pain). Acute pain is a short term feeling of pain felt in response to an easily identifiable cause. It might be caused by surgery, some kind of trauma or an acute illness. Chronic pain lasts for a prolonged time period, and its cause is not amenable to specific treatment. It is associated with prolonged tissue pathology or pain that persists beyond the normal healing period for an acute injury or disease. (5) Joint pain is the sensation of discomfort, inflammation, soreness, stiffness in a joint or joints. Joint pain is a symptom of a wide variety of mild to serious disease.

Joint pain can result from infection, trauma, malignancy, autoimmune disease and other abnormal processes. (9) Joint pain indicate a relatively benign condition such as mild sprain. Joint pain can result of a moderate disorder such as bursitis, ankylosing spondylitis, a moderate ligament sprain or a dislocation. Joint pain can also accompany serious condition that can even be life threatening. These include rheumatoid arthritis, leukemia or bone cancer. (10) The researcher, considering the effectiveness of stretching exercise, medical properties to relieve pain and no side effect. This along with the use of wide range of pharmacological and non pharmacological therapies promoted the researcher to evaluate the effectiveness of stretching exercise mainly effective in reducing Joint pain. The age adjusted prevalence of arthritis increase as body mass index increases from 16.3% among normal, underweight adults to 28.9% among obese adults. Excess weight also contributes to activity limitation. Among normal/underweight adult with arthritis, 38.2% report arthritis attributable activity limitation. Compared to 44.8% among obese adults with arthritis. Losing even modest amount of weight can reduce your risk of getting arthritis, and improve arthritis, pain function and quality of life if you are living with arthritis. (18)

### OBJECTIVES OF THE STUDY

- To assess the pre test and post test level of joint pain among obese women in both control group and experimental group.
- To evaluate the effectiveness of stretching exercise to reduce joint pain among obese women in experimental group and compare with control group.
- To find the association between post test level of joint pain among obese women with selected demographic variables

### HYPOTHESIS

H1 - There will be a significant difference in the level of joint pain perceived by the women who is doing stretching exercises of their joints then who are not doing it.

### CRITERIA FOR SAMPLE SELECTION:

#### INCLUSION CRITERIA

- Obese women in the selected area with joint pain with Body mass index above is 25.
- Obese women with joint pain

**EXCLUSION CRITERIA:** Those who are not willing to participate in the study. Women who are not present at the time of data collection

## MATERIALS AND METHODS

The sample for this study comprised of 50 obese women with joint pain and Body Mass Index is 25 or above. In these 25 participants were in a control group at Kirumampakkam and 25 participants were in a experimental group at Moorthikuppam. The sample size calculated was 50 obese women with joint pain and body mass index 25 or above. The target population of the study includes obese women with Body mass index 25 or above at Kirumampakkam and Moorthikuppam control group has 25 and the experimental group has 25 women. Simple random sampling technique was adopted for this study. Data collection tools used by the investigation to measure the level of joint pain among obese women with body mass index 25 and above was Lyshlom scoring scale.

The score interpretation is as follows;

RATING	SCORE
MILD	91-100
MODERATE	84-90
SEVERE	65-83
VERY SEVERE	<64

**DATA COLLECTION PROCEDURE:** The data collection was done in selected area at Puducherry from 10.7.2023 to 15.7.2023. Formal permission was obtained from ethical committee, Sabari college of nursing. Simple random sampling techniques adopted to select 50 obese women with joint pain and BMI 25 or above. Nature and objective of the study was explained and got informed consent from the participants. On day one pretest was conducted by using Lyshlom knee scoring scale to assess level of joint pain among obese women and from day one (10.7.23) to day six (15.7.23) intervention (stretching exercise) was given twice a day for all 6 days of data collection for 10 minutes. On day six post test was conducted using Lyshlom knee scoring scale. To assess the level of joint pain after giving intervention.

## RESULTS

The study findings revealed that post test of experimental group mean score 3.8000 with standard deviation 0.40825 was higher when comparing to pre test mean score of 2.5600 with standard deviation 0.58310 and it was statistically the post test level of lysholm knee scoring scale was associated with the history of joint pain and it was significant at the level of  $p < 0.001$ . The study concluded stretching exercise was effective to reduce the joint pain among obese women in experimental group when compared to control group.

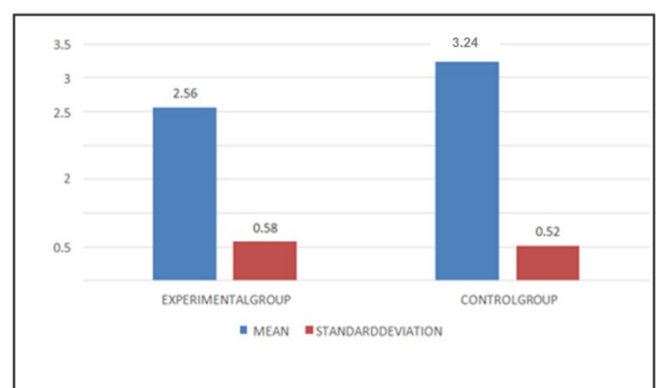
**Table 1. Comparison of post test level of joint pain among obese women between the experimental and control groups.**

n = 50					
Timeline	Group	Mean	Standard Deviation	Mean Difference	P value
Post-test	Experimental	2.5600	0.58310	0.68	0.001
	Control	3.2400	0.52281		0

\*\*\*Significant at  $P < 0.05$

reveals that the posttest level of joint pain among obese women in both experimental and control group. The finding shows that, the posttest mean score was 2.5600 with a standard deviation of 0.58310 in experimental group and the mean score was 3.2400 with a standard deviation of 0.52281 in control group. The posttest mean difference was 0.68 respectively. Thus, there is a significant difference between posttest of experimental group when compared to control group. hence, there is a significant improvement in posttest level of joint pain which is highly effective.

### EFFECTIVENESS OF POSTTEST LEVEL OF JOINT PAIN AMONG OBESE WOMEN



**Figure 1. Effectiveness of posttest level of joint pain among obese women between experimental and control group**

## DISCUSSION

The pretest and posttest reveals that the paired 't' test value of level of joint pain in experimental group pretest mean score was 23.2000 with a standard deviation of 5.69025.

The posttest mean score was 3.8000 with standard deviation of 0.40825. The calculated 't' value is 0.08165 and 0.1662 level of  $P < 0.0001$ , its clearly shows that the effectiveness of stretching exercise and the exercise is decreasing the level of joint pain among obese women in experimental group. hence the p value is highly significant.

## CONCLUSION

The stretching exercise could be useful and safe for obese women to reduce joint pain. The excavated results supported that stretching exercise is one of the best method to reduce joint pain among obese women. The stretching exercise has also shown that the reduction of joint pain and improves normal ability in daily activities

## RECOMMENDATION

- Similar kind of study can be conducted to a large group to generalize the findings.
- The same study can be repeated by using the true experimental design.
- same study ' about the effectiveness of stretching exercise can be under taken for the following condition , relief of shoulder pain and other arthritis pain.

## ABBREVIATION

- KOA** - Knee osteoarthritis  
**OA** - osteoarthritis  
**WHO** - Who health organization  
**BMI** - Body mass index  
**ROM** - Range of motion

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