

# EFFECTIVENESS OF CONVENTIONAL EXERCISE REGIMEN FOR THE TREATMENT OF SHOULDER PAIN

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## **ABSTRACT**

### **BACKGROUND**

Shoulder joint is considered to serve mobility purpose by contributing its stability and it is highly functional joint in performing activities of daily living. Degenerative changes are predominant in the shoulder joint

### **OBJECTIVES**

The purpose of the study is to analyze the effectiveness of conventional exercise regimen in the management of shoulder pain

### **NEED FOR THE STUDY**

When considering the treatment in shoulder pain, researchers from the past decades have designed innumerable rehabilitation programme aimed at resolving pain by the intervention of exercise and to improve shoulder range. The proposed physiological basis for the effect of simple conventional exercise programme is left without much attention. This study is therefore conducted to find the effectiveness of exercise in the management of shoulder pain.

### **METHODOLOGY**

Total number of 10 patients was selected for the study and received shoulder exercises. This study was carried out for a period of 6 weeks. The parameters selected were assessed in pre test and post test study design pattern.

### **CONCLUSION**

The outcome of the study reveals that the shoulder exercises plays a vital role in the reduction of pain

## Introduction

Pain motivates the individual to withdraw from activities of daily living and it guides to avoid activities that elicit discomfort in the future<sup>1</sup>. However pain resolves only when the potential causes have been identified and the stimulus eliciting the painful response is removed. Once the painful stimulus is removed, the ADL is resumed. But sometimes pain persists because of the inability in detecting the stimulus or healing of the damaged structure is not complete. It is a major symptom and it has left unnoticed in many threatening conditions, and this hinders in person's quality of life and for serving general mobility purpose<sup>2</sup>. Shoulder joint is a highly functional joint in performing all mobility activities and other recreational activities<sup>3</sup>. Pain leads to limitation in activities of daily living. People likely to search health care if they are experiencing severe pain intensity, disability, long duration of the complaint, and chronic pain symptom<sup>4</sup>. Unfortunately, many shoulder problems are left without consideration and subjects with pain modify their functional activities and daily living task instead of treating and identifying the painful stimulus. Exercises are commonly used as an adjunct for treatment. But its importance in prevention of musculoskeletal injuries is vital.

## METHODOLOGY:

### Sample design

Experimental study design was employed to find out the pre and post intervention measurements

### Sample Size

In total of 10 patients were included into the study

### Selection criteria

#### Inclusion criteria

- a. Pain with restricted ROM of shoulder joint.
- b. Age group between 20 to 40 years.
- c. Both sexes were taken for the study.

#### Exclusion criteria:

- a. Subjects with pre existing deformity
- b. Fracture and dislocation in and around shoulder joint
- c. Patients with cardiovascular disorders and neurological impairment

**Assessment parameters:**

Visual Analogue scale (VAS) is used to measure the severity of pain and Range of motion is assessed with Goniometer

**Study protocol**

The patients with shoulder pain after evaluation was subjected to exercise regimen in the first session and home advises in the second session

Each patient is has received 20 minutes of treatment session and VAS is measured at the end of the session. After the end of the program patient is instructed with exercise program to be continued in home and activity diary has been given to each patient, to document the exercise duration. exercise program constructed with stretching, range of motion and progressive resistive exercises<sup>5</sup>. Each exercise was performed with 10-15 repetitions. Wall stretches and Wall push-ups are exercises that help make shoulder joint more flexible. Arm across Chest Stretch Subscapularis & Pectoral Stretch makes the capsule around shoulder joint lax. rotator cuff strengthening exercises performed by the patient for approximately 3 times daily. By doing a prior assessment to individual subjects, exercises can be progressed by gradually increasing the repetitions, frequency or duration of the exercises by considering that they do not increase painful stimulus in and around shoulder joint<sup>6</sup>.

S.NO	CONVENTIONAL EXERCISE	INSTRUCTIONS TO PATIENT
1	Static Rotator Cuff Push Out	Keeping elbow at side and bent to 90 degrees, push hand out against the other hands resistance as hard as possible provided it is pain free and the subjects were instructed to Hold for 5 seconds and repeat 10 times.
2	Static Rotator Cuff Push In	. Keeping the elbow at side and bent to 90 degrees, push

		hand in against the other hands resistance as hard as possible provided it is pain free.
3	Shoulder Blade Squeezes	Chin should be tucked in slightly and shoulders should be back slightly. Slowly the subjects were asked to squeeze shoulder blades together as hard and far as possible provided it does not cause or increase symptoms .
4	Pendular Exercises	Keeping back straight and shoulder relaxed, instruction were given to gently swing arm in circles clockwise as far as can go without pain and provided feel either nothing, or, no more than a mild to moderate stretch..
5	Shoulder Blade Shrug	Begin this exercise standing with back and neck straight. Arm should be at side, slightly away from body with palm facing forwards as demonstrated by the therapist. Subjects were instructed to Slowly elevate shoulder blade towards ear as far as possible provided it is pain free.

**DATA ANALYSIS**

TABLE :1

## VISUAL ANALOGUE SCALE

<b>GROUP B</b>		
<b>Pre test</b>	<b>Post test</b>	<b>Difference</b>
8	5	3
10	6	4
7	6	1
6	5	1
8	6	2
9	4	5
10	6	4
6	5	1
6	4	2
8	5	3

MEAN = 2.60

**TABLE: 2- RANGE OF MOTION:****PRE-TEST AND POST-TEST VALUES OF SHOULDER FLEXION**

<b>S.No</b>	<b>GROUP B</b>		
	<b>Pre test</b>	<b>Post test</b>	<b>Difference</b>
1	120	150	30
2	135	160	25
3	145	170	25
4	100	130	30
5	110	145	35
6	100	130	30
7	125	150	25
8	140	170	30

9	150	180	30
10	110	130	30

MEAN = 28

**TABLE:3 - PRE TEST AND POST TEST VALUES OF SHOULDER EXTENSION**

S.No	GROUP B		
	Pre test	Post test	Difference
1	40	50	10
2	20	35	15
3	25	35	10
4	30	45	15
5	35	45	10
6	40	50	10
7	45	60	15
8	45	55	10
9	30	45	15
10	25	40	15

MEAN = 12.5

**TABLE: 4 - PRE TEST AND POSTTEST VALUES OF SHOULDER INTERNAL ROTATION**

S.No	GROUP B		
	Pre test	Post test	Difference

1	45	65	20
2	30	45	15
3	40	60	20
4	25	40	15
5	35	50	15
6	40	60	20
7	30	45	15
8	35	50	15
9	25	45	20
10	20	35	15

MEAN = 17

**TABLE : 5 - PRE TEST AND POSTTEST VALUES OF SHOULDER EXTERNAL ROTATION**

S.No	GROUP B		
	Pre test	Post test	Difference
1	30	45	15
2	25	45	20
3	40	55	15
4	35	55	20
5	20	35	15
6	25	45	20
7	30	45	15
8	35	55	20
9	40	55	15
10	45	60	15

MEAN = 17

**TABLE: 6 - PRE TEST AND POSTTEST VALUES OF SHOULDER ABDUCTION**

S.No	GROUP B
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	Pre test	Post test	Difference
1	110	130	20
2	150	180	30
3	140	170	30
4	125	150	25
5	100	130	30
6	110	145	35
7	100	130	30
8	145	170	25
9	135	160	25
10	120	150	30

MEAN = 28

## DISCUSSION

The results of this investigation support the premise that a Basic conventional exercise programme can be effective in reducing pain and improving ADL in patients with shoulder pain. The subjects practicing the basic exercise programme showed positive changes on pain and range of motion.

However, exercise programmes are commonly used as conservative treatment for shoulder pain, few researchers have assessed the effects of shoulder exercise on pain and ROM and none of these studies have targeted populations with occupationally related shoulder pain. Deyle in his research have compared exercise with manual therapy, but did not have a non-exercise comparison group. positive effects were achieving despite practicing only five exercises completed independently by the workers at home after instruction, and rechecks with the therapist. The inclusion of hot packs with the home exercise programme is all possible factors that might increase the benefit to the intervention group.

Further study is needed to help examine all reasons for differential positive effects across treatment. Because of the significant changes in ROM and reductions in pain showed by the



subjects practicing conventional shoulder exercises , it is believed that the home exercise programme are effective for the subjects with shoulder pain

The significant differences in the outcome measures in the post-test suggest that basic exercises are needed to alleviate pain instead of advising the subjects to have electrotherapeutic mode of treatment. Further investigation is needed to find the soft tissue response to exercise program in the management of pain

## CONCLUSION

The analysis of the data shows that there is significant improvement for exercise intervention in alleviating pain. In this study, it appeared that exercise along with home exercise is effective in removing the painful stimulus and in improving the shoulder range to perform ADL .From this study it is concluded that exercise is effective in the management of shoulder pain.

## Acknowledgements

I pay my sincere thanks to the chancellor of SRM Institute of Science and Technology. I express my sincere thanks to Director,Medical & Health SciencesSRM Institute of Science and Technology and extends thanks to all the participants who have been the real pillars of this study.Last but not least, I thank all of them whose names have inadvertently fails my memory and who in their own unique way have made this project a reality.

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