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To Compare Effects of Mulligan 'S and Maitland Moblization Techniques in the Treatment of Periarthritis Shoulder.

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ABSTRACT:

BACKGROUND: Periarthritis shoulder is a type of pain and stiffness between the joint. It is painful shoulder syndrome. The build up of scar tissue restricts movement inside the joint, resulting in pain and severely limiting motion.

OBJECTIVE: To compare the role Mulligan's mobilization and Maitland mobilization techniques in periarthritis shoulder and its possible effect in early gaining of ROM and pain management.

METHODOLOGY: This was a randomized control trail conducted at OPD setup. There were two groups of samples each group contained 15 samples were treated with Mulligan's techniques and shortwave diathermy in group - A and Maitland techniques and shortwave diathermy in-group -B. Samples in both treatment groups were followed till 6 weeks and improvement in range of motion parameter were recorded at every follow up visit of the samples. Range of motion and visual analogue scale was used for data entry and analysis.

RESULT: In this study, 30 samples were enrolled. Comparing the level of pain and Range of motion between two groups A and B Mean age of group A is 49.8 and group B is 48.6. When comparing the mean values of group A using Mulligan's techniques and group B using Maitland techniques, both the techniques seems to be more effective than Maitland's techniques.

CONCLUSION: Mulligan's technique is more effective in treating periarthritis shoulder as compared to Maitland technique.

KEYWORDS: Periarthritis shoulder, mulligan's mobilization techniques, Maitland mobilization techniques, Range of motion, shortwave diathermy.

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INTRODUCTION:

There is 2-5% of the population is affected by shoulder periarthritis it is most frequent in the age group of forty five to sixty years old. The samples have an insidious and gradual damage to active and passive movement in the glenohumeral joint apparently due to capsular contracture.[1] The causes and pathology of periarthritis shoulder remain enigmatic irrespective of intensive measurement.[2] Repeated shoulder elevation at or beyond 90 degree in any plane during work-related tasks has been recognized as a risk factor for the development of shoulder distressing harms, shoulder with no specific cause periarthritis shoulder.[3] In periarthritis shoulder the persons with shoulder pain are not able to perform routine activity and because of this there is decrease in the shoulder muscle strength and endurance.[4] The persons try to manage the range of motion(ROM) loss by using other muscles and raised scapular rotation to complete numerous activities. Because of this there is additional strain on the other muscle groups, leaving them overloaded and tendon.[5] Sleeping disorders are common among periarthritis shoulder persons due to the pain and they are not able to lie shoulder that is affected.[6] There is gradual loss of shoulder Range of motion (ROM) and strength of surrounding muscles due to periarthritis shoulder.[7] The person has reduction of physical disability and improvement of the shoulder function in periarthritis persons are the raised in the shoulder active ROM, the strength of the shoulder muscles and decreased pain.[8] It can be observed that recovery of Periarthritis shoulder persons commonly prolonged in spite of various treatment methods.[9] Rehabilitation process of periarthritis shoulder patient usually comprises exercises aim to restore regular shoulder kinematics or shoulder muscle movement.[10] For periarthritis shoulder persons the studies determine outcome of Pre- and Post Range of motion (ROM) for shoulder.[11] Visual analogue scale (VAS) was used to quantify the strength of pain among samples. Muscle strength of the shoulder was measured. Through, there is no evidence to determine whether rehabilitation can change the pattern of shoulder muscle endurance in Periarthritis shoulder samples. Whereas, the study focused on examining the shoulder ROMs and pain reduction before and after the treatment. All measured characteristics of periarthritis shoulder samples in both groups to find out the most effective method in the treatment of periarthritis shoulder.

METHODOLOGY

MATERIAL AND METHOD

Thirty elderly people above 60 years old people with adhesive capsulitis were recruited from physiotherapy OPD setup in Mahatma Gandhi medical hospital, puducherry. The present conducted 6 to 8 weeks. The 30 people's divided into 2 groups each groups have 15 peoples were Simple random sampling techniques. The allocation of group A and B, group A treated with using Mulligan mobilization techniques and shortwave diathermy. Group B treated with using Maitland mobilization techniques and shortwave diathermy. The selection criteria Males and female's with adhesive capsulitis of the shoulder. Pain more than 3 months, peoples with chronic periarthritis shoulder (diagnosed already).

Exclusion criteria

Elderly who have acute pain and inflammation, recent fracture, History of trauma and recent injury, any other soft tissue injury around shoulder, Malignancy around the shoulder, Medication for pain relief. These conditions were excluded from this study.

Procedure:

All the samples were selected after informed consent. In the group A samples were treated with mulligan's techniques these samples were interviewed by direct method and reassessed after six weeks. Pre and Post Range of motion (ROM) was recorded. In group B samples were treated with Maitland

techniques. These samples were also assessed after six weeks. The increased Range of motion (ROM) was recorded after six weeks. The procedure will continue for 6 weeks with 5 session in a week with each session lasting for 45 minutes, 30 minutes for mobilization, 15 minutes for shortwave diathermy. The baseline assessment on range of motion and pain will can recorded and documented prior to the intervention.

OUTCOME MEASURE:

Scale (VAS) visual analogue scale.

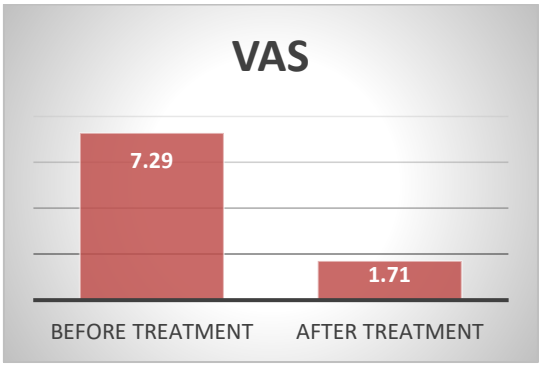
The pain intensity is diagnosed by scoring system. The score was 0 (no pain), 1 to 3 (mild pain), 4 to 6 (moderate pain), 7 severe pain, 8 to 9 (extreme pain) and 10 (worst pain).

DATA ANALYSIS

Table.1: Pain analysis and Range of motion pre and Post treatment test.

	VAS SCORE MEAN	STANDARD DEVIATION
Before Treatment	7.29	1.03
After Treatment	1.71	0.84

Graph.1: Comparison of Pain level (VAS) Between the Pre- test and Post-test:



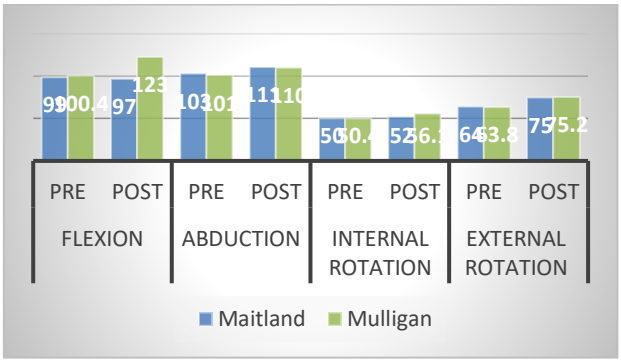
On testing the Pre and Post test for Pain , it is proved that pain is decreased post treatment .

Table.2: Comparision of ROM Between the Pre- test and Post-test:

Movements		Maitland		Mulligan	
		Mean	S.D	Mean	S.D
Flexion	Pre	99	4.4	100.4	4.6
	Post	104	4.5	123	10.1
Abduction	Pre	103	5.8	101	7.7
	Post	111	6.8	110	8.4
Internal rotation	Pre	50	2.8	50.4	3.2
	Post	56	3.5	56.2	3.5
External rotation	Pre	69	3.9	68.8	4.4
	Post	75	5	75.2	4.1

Range of motion is assessed through goniometer.Mean and standard deviation are been calculated assessing both Pre and Post measurements.

Graph.2: Comparison of ROM Between the Pre- test and Post-test



Comparison between Pre and Post values of Flexion,Abduction,Internal rotation and External rotation of Mulligan and Maitland techniques. Mulligan technique is proved to be better in treating Periarthritis shoulder when compared to Maitland technique.

RESULT:

There were 30 patient in this study, Mean age of the samples in group - A 49.8, and mean age of samples in group- B was 48.6. Out of 15 samples in group -A 10 samples are male and 5 samples are female. In group -B 9 samples are male and 6 samples are female. In group - A 7 samples were single while 8 samples were married and in group- B 4 samples were single while 11 samples were married. Group - A 15 samples were illiterate had 7primary education,3 had secondary, were 3 graduated and samples were 2post graduate. In group B - 15samples 6 were illiterate had primary education, 3 had secondary, 4 were graduated and samples were 2 post graduate. In group- 7 A samples were from upper, 3 were from lower and5 samples were middle class.In group - B 6 samples were from upper, 4 were from lower and5 samples were middle class. In group- A 5samples duration of onset was 8 weeks, 3samples duration of onset was 10 weeks and7 samples duration of onset was12 weeks. In group - B 5 samples duration of onset was 8 weeks. 4 Samples duration of onser was 10 weeks and 6 samples duration of onset was 12 weeks. In group - A 10 samples told they felt pain at night, 2 samples told that they felt pain during rest and 3 samples told that they felt pain while on motion. In group - B 7 samples told they felt pain at night, 5 samples told that they felt pain during rest and 3 samples told that they felt pain while motion. In group - 3 samples had mild pain, 7 samples had moderate pain, and 5 samples had severe pain. In group - B none of the samples had mild, 8 samples had moderate and 7 samples had severe pain.

DISCUSSION:

The present study was done to evaluate effectiveness of the two manual techniques, i.e. Mulligan(MWM) and Maitland mobilization techniques along with shortwave diathermy on the periarithritis shoulder, and also to compare which of the techniques is better in term of reducing pain, improving functional range of motion and the joint mobility. All the participants have received the intervention foe a period of 4 - 6 weeks. The pain relief was positive on both the groups. Statistically, significant difference was shown in between the groups, the result showed significant difference at 4 - 6 weeks of intervention, which means that Maitland and mulligan techniques are effective in increasing the range of motion in sample with periarthritis shoulder. Both the groups on follow up shows the functional improvement and achivement of range of motion. Flexion and external rotation range of motion has shown maximal improvement in between the groups received Maitland and mulligan techniques, the improvement in the range of motion from baseline to follow-up. This pattern was similar in both the groups. Ranges improved post intervention, in the mulligan's group, the improvement in the range was significant for flexion, abduction and External rotation. The improvement iin the mulligan's group, can be attributed to the corrective glide to achieve optimal alignment of the articular surface and its maintain by appropriate recruitment of the muscles by samples, active effort.

CONCLUSION:

Mulligan's technique is more effective in treating periarthritis shoulder as compared tp Maitland technique. Abduction and flexion improvement was significantly higher in samples who were treated with mulligan's techniques where as improvement in medial rotation was statistically same in both treatment groups.

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