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Study to determine the results of applying Fascial Distortion Model Techniques against Conventional Physiotherapy Treatment for patients with Shoulder pain

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Abstract:

Background: Shoulder pain is one of the common musculoskeletal complain effecting both genders. The difficulty caused due to this shoulder pain is so profound that it makes the patient life crippling. In most of the cases the pain of the shoulder is managed conservatively by medications eg. NSAID, or Intra articular injection or Physiotherapy or naturotherapy treatments like acupuncture, magneto therapy etc. There is a sincere intention to determine the efficacy of Fascial distortion model over the Conventional Physiotherapy Treatment.

Methods:

This study involves 30 patients initially selected by convenient sampling methods in 2 groups. Experimental group receives FDM Treatment at the frequency of 5 visits in a week for 1 week duration and other Group receives Conventional Physiotherapy comprising of Superficial Heating Modality, Mobilization and exercises at the frequency of 5 visit per week for 4 weeks duration. The outcome is measured using VAS, SPADI and Goniometry as measures.

Results :

This result is suggestive of the finding that interventions used in both Gr A and Gr B is effective in reducing the pain and disability. However it was observed that patient recovered faster in Gr A on application of FDM.

Conclusion :

Both the techniques shows efficacy in the treatment of shoulder pain. But while comparing the FDM technique with conventional therapy it is seen to be showing faster recovery.

Keywords : Fascial Distortion Model, Shoulder Pain and Disability Index, Visual Analog Scale, Range of motion

Introduction :

Shoulder pain is one of the common musculoskeletal complain effecting both genders. The onset of the problem is insidious in nature. The incidence is more prevalent in females than in males. Although the cause of this

complain is due to old age but it is seen to be effecting individual of younger age group also. Repetitive stress is one of the main cause of this complain in young adults. The difficulty caused due to this shoulder pain is so profound that it makes the patient life crippling . In most of the cases the pain of the shoulder is managed conservatively by medications eg NSAID, or Intra articular injection or Physiotherapy or naturotherapy treatments like acupuncture, magneto therapy etc . Although it takes its own course following Conservative treatment the difficulty and disability caused gets reduced.

This study is carried out to find out if our newly established intervention prove to be magical in recovery of patient with shoulder pain . There is a sincere intention to determine the efficacy of Fascial distortion model over the Conventional Physiotherapy Treatment .

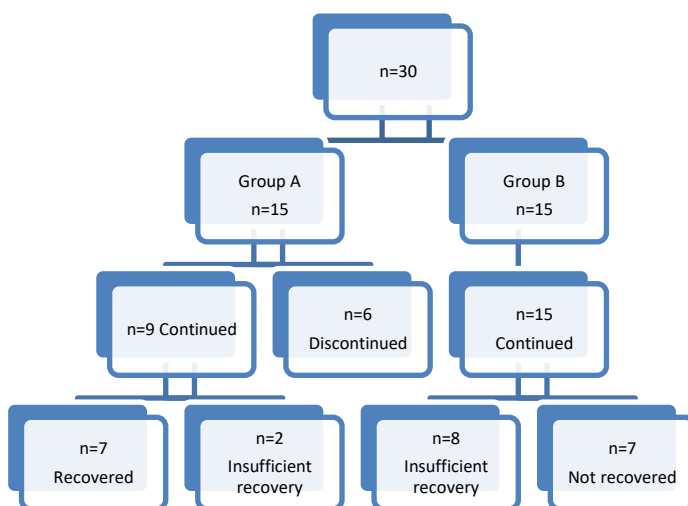
The fascial distortion model is a newly established treatment module in which many musculoskeletal injuries are thought to be the result of specific alterations of the body's fascia. It was developed in an attempt to improve current treatments protocols by applying them on a more anatomical approach. Many of the most commonly seen musculoskeletal injuries are vaguely defined and often respond poorly to conventional treatments. One example of this is a pulled muscle. It is difficult to visualize what a pulled muscle is, and therefore most treatments are not specifically designed to correct the underlying dysfunction. In the fascial distortion model a pulled muscle is defined as a muscle that has a trigger band wedged within its belly at a perpendicular angle to the axis of the muscle. This definition allows us to conceptualize the pathology and to speculate on how our treatment choices might affect the dysfunction. This change in terminology perspective can often lead to significantly more effective treatment results

Methodology : This study involves 30 patients initially selected by convenient sampling methods in 2 groups . Group A (Experimental group) receives FDM Treatment at the frequency of 5 visits in a week for 1 week duration . Group B (Conventional group) receives Conventional Physiotherapy comprising of Superficial Heating Modality , Mobilization and exercises at the frequency of 5 visits in a week for 4 weeks duration . In Gr A among 15 patients only 9 continued the study , 6 patients discontinued the study as the subject could not withstand the pain of treatment . In Gr B, all 15 participants had actively participated in the study.

In Gr A the treatment included release of various fascial distortion involved ie Continuum Distortion, Trigger band distortion and Cylindrical Distortion as shown by the patients. Gr B received Gr 3 , 4 Maitland's Mobilization along with Hot fomentation and Pendular exercises, Finger ladder exercises with AROM . The outcome is measured as per protocol analysis using Visual Analog Scale for pain intensity, Goniometry for ROM analysis and Shoulder Disability Index for finding the level of disability. Pre and post test values are documented for the analysis.

Scheme of the study design :

Variable	Pre	Post	t-test	P-Value
VAS	9.22±0.67	2.77±1.56	12.1601	<0.001
SPADI	87.19±4.45	32.33±11.72	14.1838	<0.001
SHOULDER FLEXION	110.56±20.37	152.22±19.05	-6.10847	<0.001
SHOULDER ABD	91.33±15.88	131.11±23.29	-4.69713	<0.001
SHOULDER IR	16.67±3.53	41.67±10.89	-8.3205	<0.001
SHOULDER ER	26.11±8.57	51.67±13.92	-9.06503	<0.001



Statistical Analysis:

1. Gender Distribution :

Total	Male	Female
30	7	23

Table 1 : Showing Pre and Post outcome of Group A

Table 2 : Showing Pre and Post outcome of Group B

Variable	Pre	Post	t-test	P-Value
VAS	8.8±1.14	2.33±1.91	13.28821	<0.001
SPADI	83.19±5.53	32.11±14.35	15.37259	<0.001
SHOULDER FLEXION	107.33±15.22	151±20.546	-11.2332	<0.001
SHOULDER ABD	90.33±15.17	131.67±26.03	-8.28774	<0.001
SHOULDER IR	19±6.04	45.67±16.78	-7.91564	<0.001
SHOULDER ER	25.67±7.03	51.67±14.59	-8.5105	<0.001

Diagram 1: Graphical representation of Pre and Post findings of GrA and GrB for different shoulder ranges.

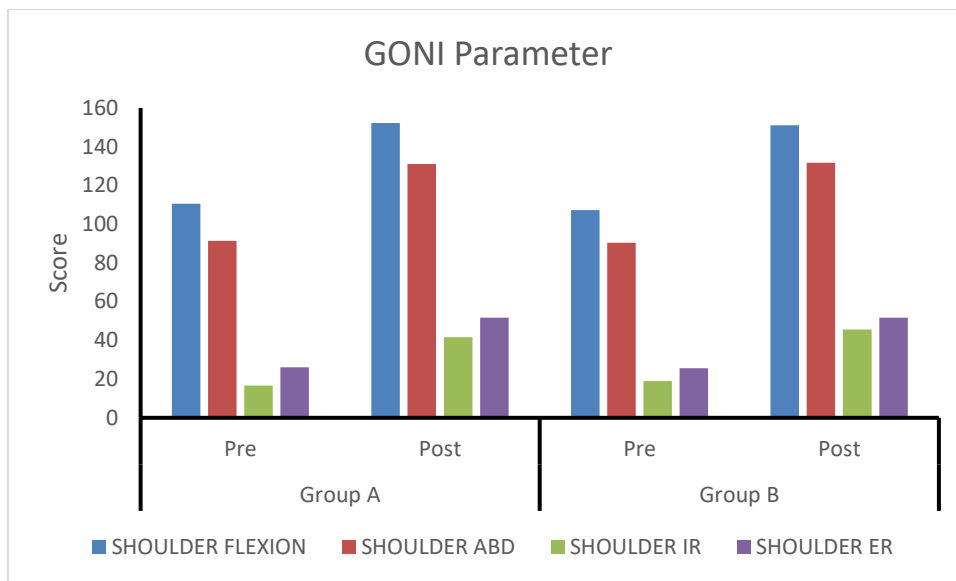


Diagram 2: Graphical representation of Pre and Post findings of GrA and GrB for Visual analog scale

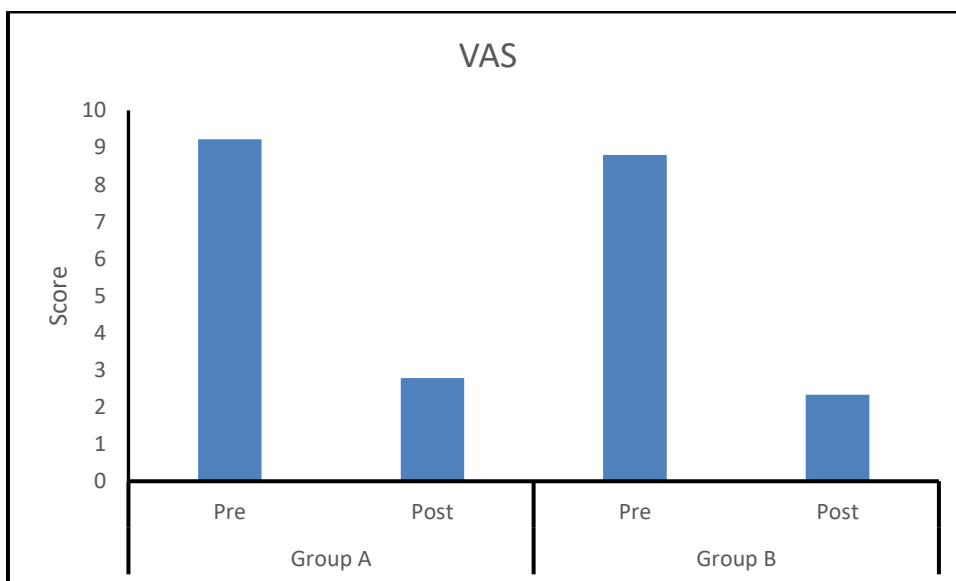
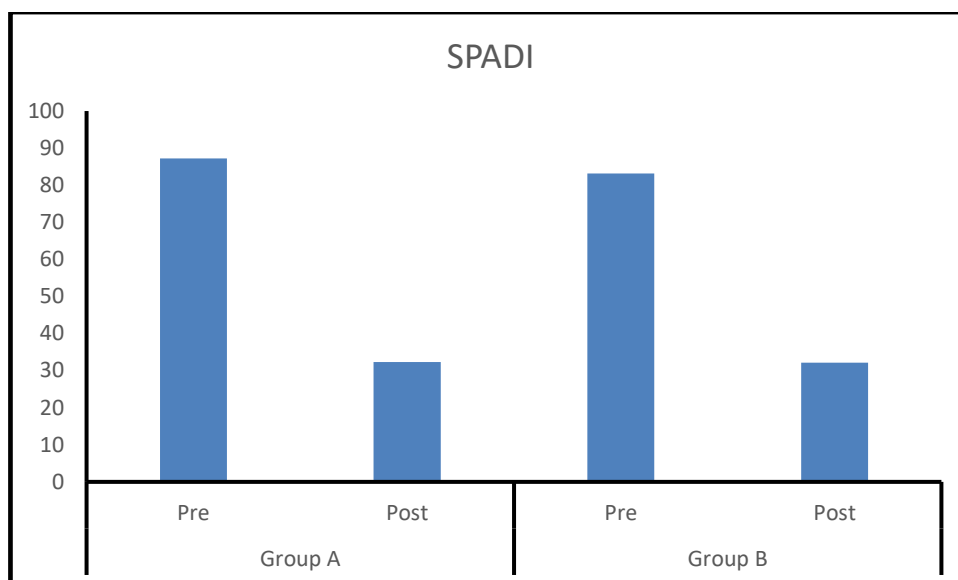


Diagram 3: Graphical representation of Pre and Post findings of GrA and GrB for Shoulder Pain and Disability Index



Result : The results of data collection were computed using SPSS software and were plotted in graphical representation. Based on the gender distribution it is evident that the incidence of shoulder pain is more common in female than in male with 23:7 ratio out of 30 subjects. Both the Groups showed significant reduction in pain, disability and improvement in shoulder range of motion with $p \leq 0.001$ considering 95% of confidence level. But between group analysis showed no significant difference i.e. in Gr A the after treatment VAS mean value and standard deviation value is 2.77 ± 1.56 and that of Gr B is 2.33 ± 1.91 , while taking into consideration of SPADI also the Post mean value and standard deviation of Gr A is 32.33 ± 11.72 while that of Gr B is 32.11 ± 14.35 which is relatively insignificant. For shoulder range of motion also Post treatment findings of Gr A is $-6.10847, -4.69713, -8.3205, -9.06503$ and for Gr B is $-11.2332, -8.28774, -7.91564, -8.5105$ for Shoulder Flexion, Shoulder Abd, Shoulder Ir, Shoulder Er respectively. The showed value projects that there is no significant difference in between the groups but individually each technique is effective. This is suggestive of the finding that intervention used in both Gr A and in Gr B is effective in reducing the pain and disability and this is at per the results of research done by Adrian Rogala et al. However it was observed that few of the patients from Gr A could not resist the pressure applied during the treatment manoeuvre and discontinued so there is always a risk of missing cases while applying FDM. Moreover it is also observed from the outcome of the study that among 15 patients in Gr A, 7 patients have completely recovered whereas in Gr B none of the patient has recovered suggesting that Conventional Physiotherapy is unable to completely treat patients with shoulder pain. The result of our study is in accordance to the findings of a study done by Fink M et al who found that FDM is an effective modality with swift onset of outcome than conventional physiotherapy.

Conclusion : The findings from the obtained research results may lead to the following conclusion.

1. It can be concluded that Fascial Distortion Model is one of the suitable intervention used conservatively to treat shoulder pain by manual therapist. Although the technique is effective but the technique of administration can be painful. The recovery time taken with this technique is less.
2. It can also be concluded that conventional technique is also equally helpful but it takes a long time for the patient to recover.

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