



“A COMPARISON BETWEEN HAMSTRING STRETCHING EXERCISE VERSES BACK EXTENSION EXERCISE IN ACUTE LOW BACK PAIN HOUSEWIFE OF AGE 30 TO 45”

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ABSTRACT: BACKGROUND & OBJECTIVES: It has been proposed that Comparative between Hamstring Stretching Exercise verses Back Extension Exercise in Acute Low Back Pain in Housewife is best type of treatment approach for overall recovery. The objective of this study was to assess, A Comparison between Hamstring Stretching Exercise verses Back Extension Exercise in Acute Low Back Pain in Housewife.

METHODS: A briefed the Family Members on the objectives and contents of Physiotherapy treatment obtained their consent, give them a letter, explained to them the methods and materials of Hamstring Stretching exercises and Back Extension Exercise. After the collection of Demographic data, Subjects will assess in NPRS. Assessment of the initial performance is follow by the Subjects receive Hamstring Stretching exercises with 5 repetition with 20 to 30 seconds holding and Back Extension Exercise with 15 repetition and 10 second holding. First assessment will do after 1 week and second assessment will do after 2weeks.

RESULTS: Subject benefited in improvement in Acute Low Back Pain with Back Extension Exercise as compared to Hamstring Stretching Exercise.

INTERPRETATION & CONCLUSION: Back Extension Exercise (Group B) shows better results improvement in acute back pain as compared to Hamstring Stretching Exercise (Group A). Thus the Back Extension Exercise reduces the back pain in Acute Low Back Pain.

KEY WORDS: Hamstring Stretching and Back Extension Exercise, Numeric Pain Rating Scale, Pre score, Post score

INTRODUCTION:

Low back pain is one of the most common muscular skeletal disorders. It is an emerging public health problem over the world¹. Low back pain is common disorder involving muscle, nerves and bones of back pain can vary from dull constant to sudden sharp feeling². According to one study, almost 80% of persons in modern industrial society will experience back pain³. In 78% men & 89% women specific cause was not known⁴. Low back pain may classify by duration as acute (pain lasting less than 6 weeks), sub – chronic (6 to 12 weeks), or chronic (more than 12 weeks)⁵. A symptom of low back pain improves usually within a few weeks from time they start, with 40 – 90 % of people completely better by six weeks⁶.

Stretching is form of physical exercise in which a specific muscle or tendon (or muscle group) is deliberately flexed or stretched in order to improve muscles felt elasticity and achieve comfortable muscle tone⁷. Feeling of increased muscle control, flexibility and range of motion and also used therapeutically to alleviate cramps⁸. Back extension exercise is an exercise that works lower back as well as mid and upper back, specially erector of spine. Back extensors are essential to lifting and bending activities. These muscles act both to extend the spine and to balance the flexion movement produced by the trunk and weight being lifted.⁹ Low back extensor muscles strength is an important factor for low back, prevention of injury, and as a component of fitness training programmer to enhance performance levels because it is known that many people with low back pain have got weak low back muscles¹⁰. A decrease of lower back muscles' strength may decrease range of motion through its effect on back pain or inactivity¹¹.

RESEARCH DESIGN:

An experimental pre-test, post-test same subject design was used in this study.

SAMPLE AND SAMPLING TECHNIQUE:

An incidental quota sample of 20 reducing acute Back pain patients took part in study. The subjects were selected from the outpatient department at Lions hospital, Mehsana. The group consisted of 20 females having a mean age of 112.1 ± 3.348 (group A) and 153.6 ± 3.919 (group B) years. Subjects who fulfilled the inclusion criteria and were ready to attend the therapy regularly were randomly selected assigned into two groups- Group A & Group B (each having 10 subjects).

SAMPLING METHOD: Cross sectional observational study

STUDY DURATION: 2 Weeks

PROCEDURE:

The subjects were invited to participate in the study. A total of 20 subjects will be selected for the study from the population who fulfilled the selection criteria using cross sectional interventional study and assigned into two equals groups – study group A and control group B randomly. Subject will be thoroughly explained about the purpose of the study, risk and benefits involved in the process to obtain informed consent. Then subjects will be evaluated for pain intensity using NPRS before the treatment (pre-test score) and then treatment will be given for Group A and Group B for 3 days for 2 weeks days.

Group A subjects were given Hamstring Stretching Exercise. While giving Hamstring Stretching Exercise two sessions with 5 times, 3 days a week for 2 weeks were given.

Group B subjects were given Back Extension Exercise. After giving the Back Extension Exercise with 15 repetition and 20 to 30 second holding, it will be help to reduce the pain in Acute Low Back Pain. The post-test measurement of pain will be collected at end of 2nd or last two weeks. Two sessions of 15 repetitions with 20 to 30 seconds holding the position, 3 days a week for 2 weeks were given.

The re-assessment was taken after this treatment with NPRS. Then again give the treatment to the subjects in both groups.



RESULTS:

Paired and unpaired t-test was used to compare the performance of the subjects after Back Extension Exercise and Numeric Pain Rating Assessment Scale.

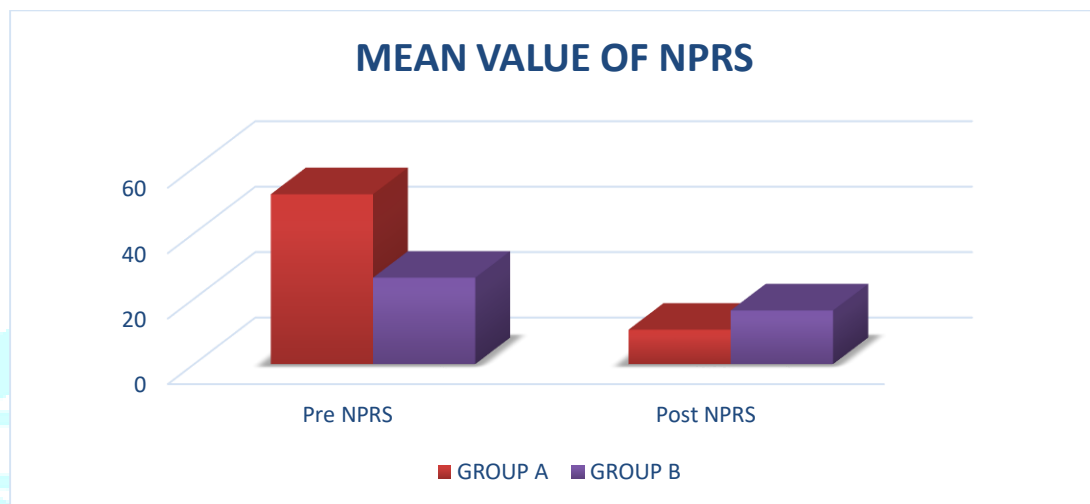
The analysis of POST NPRS score showed a significant improvement after Back Extension Exercise in group subjects [$X_2 = 2.5$, $S.D_2 = 1.0246$] as compare to the PRE-NPRS [$X_1 = 6.3$, $S.D_1 = 2.278$] with t value = 4.816.

POST-NPRS score showed a significant improved after Hamstring Stretching Exercise in group subjects [$X_2 = 4.6$, $S.D_2 = 1.280$] as compare to the PRE NPRS [$X_1 = 6.6$, $S.D_1 = 1.6248$] with t value = 3.0627. NPRS scores (POST) were found to be significant when compared to pre intervention score (PRE) in both groups.

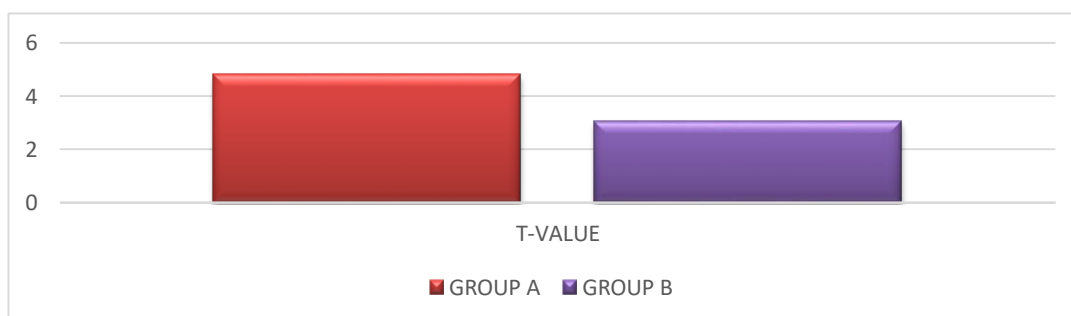
Thus, an overall analysis of score show maximally improvement occurred with Back Extension Exercise with t value = 4.816 for NPRS score compare to Hamstring Stretching Exercises with t value is =3.0627 for NPRS score. Back Extension Exercise (POST) showed marked improvement in reduce pain of the subjects.

TABLE MEAN AND SD OF PRE AND POST VAS FOR GROUP A AND B

Variables	Group A Mean \pm SD	Group B Mean \pm SD
Pre NPRS	51.9 \pm 2.278	26.4 \pm 1.624
Post NPRS	10.5 \pm 1.024	16.4 \pm 1.280

GRAPH MEAN OF PRE AND POST NPRS FOR GROUP A AND B**TABLE COMPARISON OF T VALUE OF NPRS GROUP A AND B**

GROUP – A (10)	GROUP – B (10)
4.816	3.063

GRAPH: COMPARISON OF T VALUE OF NPRS GROUP A AND B

DISCUSSION:

The back pain and their improvement has been studied for many years, however comparatively little work has been conducted to A Comparison Between Hamstring Stretching Exercise Verses Back Extension Exercise in Acute Low Back Pain in Housewife of age 30 to 45. The assessment was taken on NPRS Score is commonly used for the identification for Acute Low Back Pain.

Norris C. M. ,Champaign IL, they performed the effect of dynamic back muscles training on spine flexibility, as well as the back muscles strength and endurance in healthy females. It is known that inactivity decreases muscles strength and also results in decrease spinal flexibility and then decrease the life quality⁷.

Nor Azizah Ishak, Czarina Zakaria and Maria Justine. They performed studies on the intervention of LBP in elderly people have recommended that Strengthening exercises help alleviate pain and improve body functions. Therefore, physiotherapists should apply strengthening exercises as an effective treatment to improve physical function and to prevent disability in clinical settings. Clinicians may also combine strengthening exercises with other exercise types and approaches, such as pain modalities and manual therapies, to further enhance the physical functions and reduce pain experienced by elderly people. Further studies on other types of back exercises, such as mobility, core stability, agility training, and balance exercises, should be conducted to investigate their benefits and efficacy in elderly people with LBP¹⁰.

Laura C Decoster, Rebecca L Scanlon, Kevin D Horn and Joshua Cleland, they performed that both standing and supine hamstring stretches are comparably effective in improving flexibility. We found no significant difference between the standing and supine hamstring stretches. With proper instruction and supervision, both stretches can be effective and may be used interchangeably. However, because the supine stretch does not require specific pelvic positioning and therefore, requires less instruction and supervision, it may be more effective for independent programs¹¹.

So, the present study suggests that both Hamstring Stretching Exercise and Back Extension Exercise are effective in reducing the Acute Low Back Pain Housewife of Age 30 to 40.

CONCLUSION:

The results show that Back Extension Exercise and Hamstring Stretching Exercises definitely reduce the acute Low Back pain. From the study done it can be interrupted that Back Extension Exercise shows better results as compared to Hamstring stretching Exercise and thus the hypothesis holds true.

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