
**EFFECTIVENESS OF LUMBAR LORDOSIS RESTORATION REGIMEN IN CHRONIC
FLAT BACK PAIN**

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ABSTRACT:

Back pain is the universal human experience, being an ailment that affects most people in one form or another at some stage in life. The body compensates for flat back syndrome by carrying the head and neck forward, which can cause strain in those areas, as well as in the upper back and shoulders. It can create chronic back pain. In this study, a hidden result may be there that if follow up taken after year and then again data collected then there is a chance to get significant changes in x-ray in concern of lumbar lordosis and to establish a shred of evidence for the concept

INTRODUCTION:

Back pain is the universal human experience, being an ailment that affects most people in one form or another at some stage in life. Flat back is a reduction or elimination of the normal curve in the lumbar spine. The normal lordotic curve is part of the natural spinal alignment; it helps you balance your body as you meet the physical demands of your daily activities.

When these curves are lost, the person can have difficulty standing up straight and may stoop forward, especially by the end of the day. He/she may also find that they have to flex their hips and knees, as well as change the tilt of their pelvis in order to try to stand straight.

Being off-cantered, one can have difficulty walking and performing other daily activities, and may feel fatigued from the strain of trying to maintain balance.

The body compensates for flat back syndrome by carrying the head and neck forward, which can cause strain in those areas, as well as in the upper back and shoulders. It can create chronic back pain.

Worldwide, back pain is the single leading cause of disability, preventing many people from engaging in work as well as other everyday activities. Back pain can affect people of all ages, from adolescents to the elderly. Back pain is one of the most common reasons for missed work. One-half of all working. Back pain is the third most common reason for visits to the doctor's office, behind skin disorders and osteoarthritis/joint disorders.

SPINAL CURVE & FLAT BACK:

The spine has two alternating curves to create an "S" like shape. In the neck and low back, there is normally an inward curvature known as lordosis. In the thoracic spine and sacrum, there is an outward curvature known as hypnosis.

Normal angle of the spine and sacrum, Lumbosacral angle 140° , Lumber lordotic curve 50° , sacral angle 30° , Pelvic angle 30° . When lumbosacral angle gets reduced then it goes to convert in flatten.

EXPERIMENTAL HYPOTHESIS:

There is an improvement in chronic low back pain having flat back when given Lumbar lordosis restoration regimen. (Tighten muscles restoration normal elasticity such as tighten pectoralis, upper abdominal, gluteal and hamstring muscle and strengthening to weaker muscle group such as erector spine and hip flexor and quadriceps)

NULL HYPOTHESIS:

Therefore in the present research Null hypothesis was formulated. There is no improvement in chronic low back pain having flat back when given a Lumbar lordosis restoration regimen.

STATEMENT OF QUESTION:

Whether the Lumbar lordosis restoration regimen (Tighten muscles restoration normal elasticity such as tighten pectoralis, upper abdominal, gluteal, hamstring muscle and strengthening to weaker muscle group such as erector spine and hip flexor and quadriceps) reduces pain in patients with chronic low back pain having flat back.

NEED OF THE STUDY-

Chronic low back pain having a flat back is one of the commonest problems; It disturbs the freedom of working frequently as we had seen in statistical data in the above-given context. The study is needed to find out the solution of the problem as a long-lasting result of effectiveness of the Lumbar lordosis restoration regimen in patient having chronic low back pain having flat back.

PURPOSE AND SIGNIFICANCE:

The purpose of the study was to test the efficacy of a physiotherapy program including Tighten muscles restoration normal elasticity such as tighten pectoralis, upper abdominal, gluteal, hamstring muscle and strengthening to weaker muscle group such as erector spine and hip flexor and quadriceps in chronic low back pain having flat back.

AIMS AND OBJECTIVES OF THE STUDY:

To find out the effectiveness of the lumbar lordosis restoration regimen in patients having chronic low back pain having flat back.

SAMPLING:

A sample of convenient random sampling was chosen for study. A detailed description of the study, including title purpose and subject's inclusion and exclusion criteria were submitted to the clinics and hospitals.

SAMPLE SIZE:

Forty subjects were assigned to an experimental group using convenient random sampling.

STUDY DESIGN:

The study is an experimental design study Pre test and Post test subject design.

MEASURING TOOLS:

- Visual Analogue Scale (VAS)
- Roland-Morris Disability Questionnaire (RMDQ)

CONCEPT AND THEORY:

To eliminate the muscle imbalances behind the back pain using muscle balance therapy.

1. Identify which muscles are tight and relieve the tightness through targeted stretching.
2. Identify which muscles are weak and strengthen them through targeted exercise

Through the principal first the tight muscles have relaxed and weak muscles have been strengthened enough to carry their normal load, the body will naturally return to a neutral posture-relieving back muscle pain and most other back pain, neck pain and sciatica pain in the process.

This must accurately identify the muscle imbalances have and use the correct stretches and exercises or may accidentally strengthen or stretch the wrong muscles, leaving in pain longer.

BIOMECHANICS FOR RESTORATION OF LORDOSIS OF THE SPINE:

Restoration of the spine is actually a simple concept. As its name states, it is making the spine back to the normal. How is this done? By restoring the curves of the spine. Simply put, strengthening and stretching myofascial tissue in the '**opposite direction**' of the curve.

So, to restoration and achieve lordosis of the spine in the lumbar region, given that the lumbar lordosis is a curve of extension, to accomplish this, we need to strengthen extension musculature of the lumbar region and stretch/lengthen the flexor myofascial tissue of the lumbar region. This involves strengthening the musculature of back extensors & hip flexors. And it means stretching the hamstring, gluteus, upper abdomen and pectoralis musculature and fascial tissue.

PROCEDURE:

Explained and described the whole steps of the protocol, after taking written consent, all the subjects were evaluated using standard evaluation Performa and did the instructions to fill Visual analog scale (VAS) for pain measurement, and of Roland-Morris disability questionnaire (RMDQ) for functional activity measurement.

OVERVIEW OF PROCEDURE:

The duration of the program for each subject was 24 therapy sessions, which was completed in 2 1/2 months to 3 months. It depended on patient pain condition and their convenience. Treatment was given 3 times a week, the total number of subjects taken were 40.

As 24 therapy sessions were assigned to each patient their VAS and RMDQ were measured on 1st therapy session, 12th therapy session and 24th therapy session.

PROGRAM FROM 1ST TO 6TH SESSIONS:

Treatment was given to teach muscles to normalize them-Active stretching of individual muscle with the help of tools & modalities accordingly was given and an active stretching regime at home was advised to the patient.

PROGRAM FROM 7TH TO 12TH SESSIONS:

Progression of stretching and strengthening exercises was initiated, active stretching and strengthening regime at home was advice to the patient. At the end of 12th session VAS-12 and RMDQ-12 taken.

PROGRAM FROM 13TH TO 18TH SESSIONS:

Passive stretching and resisted strengthening exercises were progressed accordingly and active stretching and strengthening regime at home was advice to the patient.

PROGRAM FROM 19TH TO 24TH SESSIONS:

Progression of strengthening exercises was initiated active stretching and resisted strengthening regime at home was advised to the patient. At the end of the 24th session VAS-24 and RMDQ-24 taken.

RESULT INTERPRETATION:

For first variable (PAIN)

- Visual Analog Scale (VAS) for pain assessment in various aspects frequency table and pie chat on day one, 12th session and end of 24th session.
- Statistical calculations for mean, standard deviation, Coefficient of Variation T-Test descriptions of Pre and Post value of VAS.

INTERPRETATION:

According to t critical and t calculated, the value of t (calculated) of day 1 and 12th session (VAS) is 8.888 and the value of t (calculated) on 12th and 24th (VAS) is 11.890 and the value of t (calculated) of day 1 and at the end of 24th session is 25.704 standard t critical value is 0.000 these results shows improvement in pain in.

FOR SECOND VARIABLE (Functional activity):

- Roland-Morris disability questionnaire (RMDQ) for functional activity assessment in various aspects frequency table and pie chart on day one, 12th session and end of 24th session.
- Statistical calculations for mean, standard deviation, Coefficient of Variation T-Test descriptions of Pre and Post value of RMDQ.

INTERPRETATION:

According to t critical and t calculated, the value of t (calculated) of day 1 and 12th session (RMDQ) is 9.037 and the value of t (calculated) on 12th and 24th (RMDQ) is 13.714 and the value of t (calculated) of day 1 and at the end of 24th session is 16.835 standard t critical value is 0.000 these results shows improvement in functional activity.

DISCUSSION:

The above study result is significant, it had shown remarkable improvement in pain and functional activity and for making the concept more evident the study should be in a large group.

Lumbar curvature should be taken in a variable, time for study should be more to come in conclusion in reference to curve, proper X-ray should be taken from time to time for knowing the curvature status.

Through this study has taken the pain and daily living function as a variable, the result of the study shows improvement.

In this study, a hidden result may be there that if follow up taken after year and then again data collected then there is a chance to get significant changes in x-ray in concern of lumbar lordosis and to establish a shred of evidence for the concept.

CONCLUSION:

Through this study the pain and daily living function are taken as a variable, the result of the study shows significant improvement in the outcome of the analysis, In this study, a hidden result may be there that if follow up taken after one year and again data collected then there is the chance to get significant changes in x-ray in concern of lumbar lordosis and to establish a shred of evidence for the concept.

KEY WORDS-:

Pain- An unpleasant sensory and emotional experience associated with actual or potential tissue damage.

Flat back- This is a spinal deformity that is reverse of lumbar lordosis. The pelvis is tilted backward with associated shortening of the hamstrings; it is flattening of the normal lordosis.

Lumbar lordosis- The term comes from the Greek lordosis, from lordos ('ben backward'). Lumbar lordosis is the inward curve of the lumbar spine in the lower back.

Restoration- The act of restoring; renewal, revival, or reestablishment, a return of something to a former, original, normal condition.

Regimen- Medicine/Medical. A regulated course, as of diet, exercise, or manner of living, intended to preserve or restore health or to attain some result.

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