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EFFECTIVENESS OF LUMBAR TRACTION IN THE MANAGEMENT OF PATIENTS WITH SCIATIC PAIN

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ABSTRACT:
Sciatic pain is not a diagnosis but rather it is a symptom and a nonspecific term commonly used to prescribe symptoms of pain radiating downward from buttock to posterior and lateral aspect of the whole lower limb. Sciatic pain affects many people from different walks of life especially above 18 years of age both males and females. Traction reduces pressure on spine by creating tension and space b/w vertebral joints. Traction can be given by hands or via machinery. Traction is used to treat herniated discs, sciatic pain, prolapsed Intervertebral disc, cervical and lumbar spondylosis, nerve root compression and other ailments.
OBJECTIVE: The objective of the study is to find out the effectiveness of lumbar traction in the management of patients with sciatic pain.
METHODOLOGY: A total of 60 participants were registered in the study including both male and female. The pain pattern and intensity assessed by Visual Analogus Scale and Quebec Back pain Disability Scale before the treatment session. The study divided into two main groups A and B. Group A received mechanical or manual traction, TENS, moist heat and extension exercises while B group received TENS, moist heat and extension exercises. Patients treated 6 times per week for 3 weeks.
RESULT: The data was collected in two sessions before treatment and after 3 weeks of treatment. Pre pain traction was3.76509 ±2.069 whereas post pain traction was 5.11491±2.069, p=<0.005 is considered significant whereas the resultant p value=0.000, as per result t=13.578 with seven degrees of freedom since critical value is ±2.069, therefore upon the basis of these findings we reject the null hypothesis and accept the alternate hypothesis that traction is effective in relieving sciatic pain.

INTRODUCTION:

Back pain is a significant medical issue that affects a vast portion of the population. It is one of the most common reasons people seek medical care and contributes to significant healthcare costs, estimated at around $200 billion annually. Back pain is also the leading cause of employee injuries, resulting in lost time and productivity. The causes of back pain are varied and can affect both adults and adolescents. While the etiology differs across patient populations, most cases are mechanical or nonspecific. Importantly, not all back pain is the same, and a detailed examination and differential diagnosis are crucial in identifying the underlying causes.

Mechanical back pain accounts for about 90% of cases, with various causes contributing to its occurrence. Conditions like rheumatoid spondylosis and sacroiliac joint issues are often misdiagnosed as mechanical back pain. Inflammatory diseases, malignancies, pregnancy, nerve compression, radiculopathy, plexopathy, chronic disc disease, spinal stenosis, and other conditions can all contribute to back pain. Therefore, distinguishing between sensory (mechanical) and neuropathic (radiculopathy) pain is essential in diagnosing back pain accurately.

Physical assessments, such as the Straight Leg Raise and Patrick's Test, are often used to help identify the cause of a patient's back pain. Chronic back pain is particularly disabling and can significantly impact a person's quality of life. It can lead to depression and decreased productivity, affecting daily activities such as sleep, bending, and driving. Treatment options for back pain vary, with conservative treatments like NSAIDs, muscle relaxants, and physical therapy being the first line of defense. However, in cases where conservative measures fail, imaging studies, such as X-rays, and surgical interventions may be required.

Furthermore, comorbidities like obesity, mood disorders, and opioid use can complicate back pain management and must be addressed in a comprehensive treatment plan. Integrative therapies such as Tai Chi and yoga have shown modest benefits in managing back pain.

The anatomical and biomechanical aspects of back pain also play a significant role. Changes in the paraspinal muscles, such as atrophy and fatty infiltration, are often seen in individuals with chronic back pain. These changes can be linked to disease severity and may impact rehabilitation outcomes. Understanding these anatomical and compositional changes is essential for developing effective treatment strategies.

Finally, sciatica, a common cause of back pain, is often caused by conditions affecting the lumbosacral spine, such as disc herniations or spinal stenosis. The prevalence of sciatica varies, but it is a significant contributor to back pain. Clinical manifestations of sciatica include radiating leg pain, and its diagnosis and treatment can vary widely across different healthcare systems.

METHODOLOGY:

Patients were selected From the different Physical Therapy clinics of Karachi. Patients were screen to meet the inclusion criteria. Informed consent was taken From the selected patients. After registering themselves in the OPD with the complaint of radiating low back pain, they were assessed according to the format. Differential diagnosis with other back conditions mimic sciatic pain was established if the patients were experiencing sciatic pain. The studies were conducted on 60 patients between age group of 20-65 year who were diagnosed cases of radiating low back pain. Subjects were randomly allocated to either group A or B.

The patients of group A (n = 30) were treated with mechanical or manual traction along with conventional treatment (TENS, moist heating and extension exercises) whereas, group B (n = 30) was treated with conventional treatment (TENS, moist heat and extension exercises) only. ROM (SLR) was assessed using goniometry, pain by Visual Analog Scale (VAS) and disability throughout The Quebec Back Pain Disability Scale. All subjects in each group were re assessed for ROM, Pain and disability by using the same scales following completion of 3 week intervention program. Results were evaluated by comparing the difference in ROM, Pain and Disability between the two groups before and after the intervention.

RESULTS:

A 3 weeks physiotherapy was given to the affected person who included 2 groups designated as group A and group B. The patients of group A (n = 30) were treated with mechanical or manual traction along with conventional treatment (TENS, moist heating and extension exercises) whereas, group B (n = 30) was treated with conventional treatment (TENS, moist heat and extension exercises) only.

The data was collected in two sessions before treatment and after 3 weeks of treatment. Pre pain traction was3.76509 ±2.069 whereas post pain traction was 5.11491±2.069, p=<0.005 is considered significant whereas the resultant p value=0.000, as per result t=13.578 with seven degrees of freedom since critical value is ±2.069, therefore upon the basis of these findings we reject the null hypothesis and accept the alternate hypothesis that traction is effective in relieving sciatic pain.

DISCUSSION:

The objective of the study was to find out the effectiveness of lumbar traction in the management of patients with sciatic pain. A total of 60 participants were registered in the study including both male and female. The pain pattern and intensity assessed by Visual Analogus Scale and Quebec Back pain Disability Scale before the treatment session. Traction as a means of treatment has been around a long time and has remained a subject of constant research and debate throughout the globe. Of course the placebo effect has to be taken into consideration but during the course of our research we found that traction often elicits a better psychological response in patients whereas conventional Rx (TENS and heat alone) do not result in same amount of psychological satisfaction however are effective in alleviation of symptoms almost as much as traction.

CONCLUSION:

Our study reached the conclusion that traction is effective in relieving sciatic pain however since traction was not the sole modality used (due to an outpatient environment and to enhance to psychological satisfaction of patients) we recommend that further high quality clinical research should be encouraged in this area to promote evidence based learning and practices.

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