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## A STUDY ON CO RELATION BETWEEN STRAIGHT LEG ANGLE AND FUNCTIONAL DISABILITY IN LOW BACK PAIN

Abhishek Sharma<sup>1</sup>, Urvi Bhavsar<sup>2</sup>

<sup>1</sup>SPB Physiotherapy College, Surat, Gujarat

<sup>2</sup>Masoom Hospital, Surat, Gujarat

E-mail of Corresponding Author: drabhi2700@gmail.com

### ABSTRACT

**Back ground and Purpose:** Low back Pain is a major cause of functional disability in India. It is because of trauma, degeneration or any pathology related to back. Low back pain is the most challenging job of physiotherapist to deal with it. The aim of the study was to study SLR angle, the angle at which the pain increases in severity or radiating starts, and functional disability. The second was to know severity of disability in routine functions of low back pain patients. **Research Design:** Co-relation method using Karl Pearson. **Material and Methods:** Personal interview of 30 patients with Low Back Pain was taken by using to know about the level of functional disabilities and Straight Leg Raise (SLR) angle was measured. Co-relation between both Roland and Morris questionnaire and Straight Leg Raise (SLR) **Results:** The co-relation between SLR angle and functional disability as measured by RM questionnaire is partial negative. The co-relation co-efficient is -0.75. **Conclusion:** SLR angle is indicative of the functional disabilities. The patient with more disability has less SLR angle

**Key Words:** Roland and Morris questionnaire, Straight Leg Raise (SLR) angle, Low back Pain

### INTRODUCTION

Low back pain or lumbago is a common musculoskeletal disorder affecting 80% of people at some point in their lives. It is an extremely common human phenomenon which occurs because of trauma, degeneration or any pathology related to back. It can be either acute, sub acute or chronic in duration<sup>19</sup>. Low back pain (LBP) is defined as chronic after 3 months, unless pathoanatomic instability persists. A slower rate of tissue repair in the relatively avascular intervertebral disk may impair the resolution of some persistent painful cases of chronic LBP (cLBP)<sup>18</sup>. The lumbar region (or

lower back region) is made up of five vertebrae (L1-L5)<sup>5,8,17</sup>. In between these vertebrae lie fibro cartilage discs (intervertebral discs), which act as cushions, nerves runs from the spinal cord through foramina within the vertebrae, providing muscles with sensations and motor associated messages. Stability of the spine is provided through ligaments and muscles of the back, lower back and abdomen. Small joints those prevent as well as direct motion of the spine are called facet joints (zygapophysial joints). Low back pain is more persistent among people who previously required time off from work because of low back pain, those who expect passive treatments to help, those who believe that back pain is harmful or disabling or fear that any movement whatever will increase their pain, and

people who have depression or anxiety<sup>3,4</sup>. This dysfunction leads to disability to perform any household activities, grooming and almost all daily activities. A disability is any long-term limitation in activity resulting from a condition or health problem. Disability mainly occurs in performing daily activities as dressing, grooming, lifting, etc.

### **Purpose of the Study**

The first aim of the study was to study SLR angle, the angle at which the pain increases in severity or radiating starts, and functional disability. The second was to know severity of disability in routine functions of low back pain patients.

## **METHODOLOGY**

**Research Design:** Simple Random Sampling Method. Co-relation method using Karl Pearson

**Source of Data:** Patients with pathological back pain

**Inclusion Criteria:** Age group: 30 to 65 years of age. Sex: Male and female.

Patients with pathological back pain like herniated disc, spinal Stenosis, spondylolisthesis, Sciatica, etc.

**Exclusion Criteria:** Patients with mechanical back pain, osteoporosis, any spinal deformity, Ankylosis spondilitis.

### **Sampling Technique and Sample Size**

All subjects who fulfilled the inclusion criteria were selected for the study which counts to a total of 30 patients

### **Data Collection Method**

Personal interview method by using Roland and Morris questionnaire and measurement of Straight Leg Raise (SLR) angle.

### **Outcome measures:**

RM (Roland and Morris questionnaire) scale was used to measure score of RM index. SLR

angle was used to measure at which pain reproduces or radiating pain starts.

### **Collection of Data**

Roland and Morris developed a questionnaire for evaluating patients with low back pain<sup>1,16</sup>. This can be used to determine the level of patient disability and can help measure outcome following therapeutic intervention. The Questionnaire is usually paired with a visual analogue scale (VAS) for pain rating ranging from no pain at all to unbearable pain. There are total 24 questions, each has 1 point. If the answer is yes the score is 1 and for no score is 0. Total score = SUM (Points for all 24 statements). Interpretation- Minimum score: 0 Maximum Score: 24. The higher the score the more severe the disability associated with low back pain. A score of 0 indicates no disability and 24 severe disabilities. A score  $\geq 14$  indicates a patient in poor outcome group. Explain the patient the ROLAND AND MORRIS QUESTIONNAIRE. As they read a sentence that describes them today, put tick against it. If sentence does not describe them, then leave the space blank and go on to the next one. STRAIGHT LEG RAISING (SLR)<sup>2,4,5,6,19</sup>: Unilateral SLR test is positive if pain extends from the back down into the leg in the sciatic nerve distribution. With the patient in supine position, the hip is medially rotated and adducted, the knee is extended, and the examiner flexes the hip until the patient complains of the pain or tightness in back region or back of the leg. With the patient in supine position, the therapist passively flexes the hip until the symptom comes, this angle is measured by Goniometer. The fulcrum of goniometer is placed at greater trochanter; the moveable arm of the goniometer is placed along the shaft of the femur. The angle between fixed arm and movable arm is measured. The score of every patient and SLR angle should be noted and analyzed.

## DATA ANALYSIS

The collected data were subjected to Karl Pearson Correlation Co-efficient method.

## RESULTS

The co-relation co-efficient is -0.75. It shows moderately or partial negative co-relation between functional disability and SLR angle

## DISCUSSION

There is partial negative co-relation between SLR and functional disability. That means, both variables are inversely related to each other. As a functional disability is more, the SLR angle is less. The pain produces at a lower angle because of more disability. The study also relates low back pain and functional disability. We can make the society aware about the disabilities<sup>9,10,11,12,14</sup> due to the back pain and explain them to take care about the daily activities. Low back pain is the most common problem in this era for physiotherapist to deal with.

## CONCLUSION

The study concluded that there is a partial negative correlation between functional disability and SLR angle that is patient with more disability has less SLR angle. SLR

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**ETHICAL COMMITTEE CLEARANCE:** There was no ethical committee formed in the institution during the time in which research was performed.

**CONFLICT OF INTEREST:** None.

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