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INCIDENCE OF LOW BACK PAIN AND It's CORRELATION WITH LOWER CROSS SYNDROME AND FLAT FOOT IN PHYSIOTHERAPY STUDENTS

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DOI: 10.5281/zenodo.11181248

INTRODUCTION:

LOWER CROSSED SYNDROME

Lower crossed syndrome (LCS) is a musculoskeletal imbalance characterized by specific patterns of muscle weakness and tightness that crosses between the dorsal and ventral sides of the body. It is also known as a pelvic crossed syndrome. In lower crossed syndrome, the thoraco-lumber extensors are tight in dorsal side and there are also tightness in illiopsoas on the other side. While there are weakness in abdominals muscles and gluteus maximus muscles.

The result of chain reaction that the pelvis tips forward on the frontal plane, flexing the hip joints and producing lumber lordosis and stress at L5-S1 with pain and irritation. A further stress commonly appears in the sagittal plane in which quadratus lumborum tightness and gluteus maximus weaken.

When this 'lateral corset' becomes unstable, the pelvis is held in increased elevation, accentuated when walking, resulting in L5-S1 stress in the sagittal plane. One result is low-back pain. The combined stresses described produce instability at the lumbodorsal junction, an unstable transition point at best.

Failure of coactivation due to persistent tonic activity results in faulty neurodevelopment of the motor system. This eventually promoting lower crossed syndromes.

FLATFOOT

Flatfoot deformity defined by the loss of medial longitudinal arch of the foot where it contacts or nearly contacts the ground. There are two types of flatfoot deformity. The first type is rigid or congenital flatfoot and second type is acquired or flexible flatfoot.

Flexible flatfoot may result from tibial or femoral torsion, coxa vara, a defect in the subtalar joint, or injury to the posterior tibial tendon.

The need of the study is to evaluate the incidence low back pain in Physiotherapy students. To evaluate incidence of lower cross syndrome and flat foot in low back pain subjects

Design:

A total 234 students both girls and boys between age group 18 to 24 years were screened by self administered questionnaire form, from which 82 students having low back pain are taken into consideration. Each student were underwent for assessment of tightness of illopsoas with use of thomas test, tightness of errector spine (LUMBER FLEXION ROM) with use of modified modified schober's test , strenght of abdominals and gluteus maximus with use of manual muscle testing, flatffot with using of nevicular drop test.

METHODS:

MEASUREMENT OF EERECTOR SPINE THIGHTNESS:

Modified Modified schober's test: Ask the subject to standing postion. Place a first mark at a middline point on the sacrum that is level with the posterior superior illiac spine(this mark will be over the spinous process of S2). Make a second mark 15 cm above the middline sacral mark. Align the tape measure between the superior and inferior marks. Ask the subject to bend forward as far as possible while keeping the knees straight. Maintain the tape measure against the individual's back during the motion, but allow the tape measure to unwind to accommodate the motion. At the end of flexion ROM, note the distance between the two marks.(1)

MEASUREMENT OF ABDOMINAL MUSCLE STRENGTH:

The subject were placed in supine lying position with legs straight and fingertips lightly touching the back of the head (Grade 5) , arm crossed over the chest (Grade 4), arms outstretched in full extension above the plane of the body (Grade 3). For Grade 2 ,1 and 0 subject were placed in supine lying position with arm at sides. Knees flexed. Therapist stand at side of the table at level of patient's chest to ascertain whether scapular clear table during test. Then ask the subject to lift the shoulders, and back off table, keeping the chin pointed to cilling. Patient flexes trunk through range of motion, lifting the trunk until scapulae clear the table. IF the patient has weak hip flexors, therapist should stabilize the pelvis by leaning across the patient on the forearms.(2)

MEASUREMENT OF GLUTEUS MAXIMUS STRENGTH:

The subject is ask to lie in prone with knee flexed 90 degrees, hip abducted and externally rotated. Therapist stand at leval of the pelvis on the side to be tested. Ask the subject to lift the thigh off the plinth as high as possible, while bending the knee. Place the hand for resistance over the posterior thigh just above the knee. The opposite hand may stabilize or maintain the alignment of the pelvis. Resistance is given in a straight downward direction. According to MRC grading the strength of gluteus maximus was graded.(2)

MEASUREMENT OF ILLIOPSOAS MUSCLE TIGHTNESS:

Ask the subject to lies supine. The examiner flexes one of the subject's hips, bringing the knee to chest to flatten out the lumber spine and to stabilize the pelvis. The subject holds the flexed hips against the chest. If the is a no tightness, the hip being tested (The straight leg) remains on the examining table. If the tightness is present, the subject's straight leg raises off the table and muscle stretch end feel will be felt. If the lower limb is pushed down onto the table, the subject may exhibit an increased lordosis; again, the result indicate the positive test.(3)

MEASUREMENT OF FLATFOOT:

Ask the subject to relax sitting position. The examiner first measure the height of the navicular from the floor in the neutral talus position using the most prominant part of the navicular tuberosity and then measure the height of the navicular in normal relaxed standing. The difference is called navicular drop. Any measurement greater than 10 mm is considered abnormal.(3)

RESULT:

The study concludes that there is 35.04% students of physiotherapy college having low back pain. Out of that 73.17% students having a incidence of lower crossed syndrome and 6.09% students having a incidence of flatfoot.

The study concludes that there is a 5.98% students of physiotherapy college having low back pain since last one month. Out of that 78.57% students having lower crossed syndrome and 7.14% students having incidence of flatfoot .

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