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Prevalence of Lumbopelvic Instability in University Lecturers

Ambuja Bhardwaj and Lokendera Kathayat

Abstract

Aim: To determine the prevalence of lumbopelvic instability among university lecturers. **Materials and Methods**: A sample of 50 Subjects were taken from the universities in and around Mandi Gobindgarh (Punjab). Runner Pose Test was used to assess the prevalence of Lumbopelvic Instability among the university lecturers. **Results**: Lumbopelvic instability was found prevalent among the university lecturers. **Conclusion**: It was concluded that due to continues standing, faulty sitting posture and strenuous work culture the musculature around the lumbopelvic region gets weak resulting in lumbopelvic instability.

Ambuja Bhardwaj
Assistant Professor
Department of Physiotherapy, RIMT University
Sirhind Side, Mandi Gobindgarh, (Punjab), India
drambujabhardwaj@gmail.com

Lokendrabahadur Kathayat
Assistant Professor
Department of Physical Education, RIMT University,
Sirhind Side, Mandi Gobindgarh, (Punjab), India
Email: lukskathayat@gmail.com

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Introduction

Lumbar instability is pathology of the spine in which there is irregular mobility or an uncharacteristic joint between two or more adjacent vertebrae. When a patient suffers from lumbar instability, there is unnecessary movement amid the vertebrae and, progressively, a collapse of the intervertebral joints and can influence the structures of the nervous system that exceed all the way through them. Injury or harm to spinal column is the most frequent foundation of spinal instability.

Lumbar instability is an imperative reason of low back pain and can be connected with significant disability. Back pain is the prime root of disability-adjusted livelihood years based on the WHO survey of the global burden of disease. Spinal stability can be interrelated to one, two or three "sub-systems" that deeply persuade the spine. These are: A) The spinal column and its ligaments B) The nervous system (controls spinal movement) C) Muscles, which shift the spine. In a healthy state, the three systems work together and offer stability. When any one of these sub- systems becomes

injured e.g., age-related degeneration, fractures, neuromuscular disease, the other two sub-systems must compensate. When it comes exact down to it, really can't rag apart one spinal subsystem from the other. Clinical instability is in fact a multi-system dysfunction (Freburger et al., 2009). The ensuing Imbalance can direct to an unhinged spine and pain – and can noticeably worsen the quality of life of the patients, preventing them from carrying out their daily activities. Within lumbar instability, we discriminate functional (clinical) instability and structural (radiographic) instability. Functional instability, which can root pain regardless of the nonappearance of any radiological anomaly, can be definite as the loss of neural capability to organize segmental movement all through mid-range. Structural or perfunctory instability can be distinct as the commotion of passive stabilizers, which bound the unnecessary segmental end range of motion (ROM). There is also a possibility to have a mutual instability. Lumbo-pelvic stability is distinct as the capability to be in charge of lumbopelvic compass reading and maintain intervertebral neutral zones (Harris et al., 2005). The prone hip extension (PHE) test is frequently used for the assessment of lumbopelvic stability of persons with back pathologies, and unnecessary lumbopelvic movement and the timing of the muscle commotion are assessed. Clinically, the lumbopelvic region is often experimental to lengthen or rotate excessively all through PHE in individuals with lumbopelvic dysfunctions (Dillen, 2005). Such concentrated movement management and unwarranted lumbar spine motion induced tenderness in individuals with back ache (O'Sullivan, 2005, Sharmann, 2002).

Materials and Methods

The present study was conducted on 50 subjects selected from the universities in and around Mandi Gobindgarh (Punjab). The age group of the subjects was 25-50 years, both males and females and those were having non-specific low back pain. The subjects with the past history of fracture, tumor, and disorder of neuromuscular system or any recent injury of the spine were excluded from the study. Subjects should be explained about the procedure, purpose of study and its outcomes. A valid and reliable lumbo-pelvic stability test such as runner pose test was performed by the subject followed by data analysis. Subjects were asked to stand in a still pose like he/she is running. The subjects were standing on one leg and other leg was in flexed position (hip and knee near 90 degree). Arm of same side is flexed at shoulder and elbow near 90 degree and opposite arm was in extension and shoulder and elbow were in flexion. Subjects were instructed to look forward so, as spine is aligned from head through torso. Subjects were asked to maintain this position for 30 sec. Then, repeat on opposite side.

Results

In the current research, the primary data was collected through a questionnaire. After collection of primary data, the data was statistical analyzed and results were presented as mean and standard deviation.

Table 1. Mean and standard deviation of age of university lecturers

Variable	Mean (Average)	Standard Deviation	Number
Age	31.78	4.31	50

Table 2. Frequency of Gender of the university lecturers

Gender	Frequency
Male	25
Female	25

Table 3. Frequency of Runner Pose Test Score of university lecturers

Runner Pose Test Score	Frequency
Ability (Yes)	42%
Ability (No)	58%

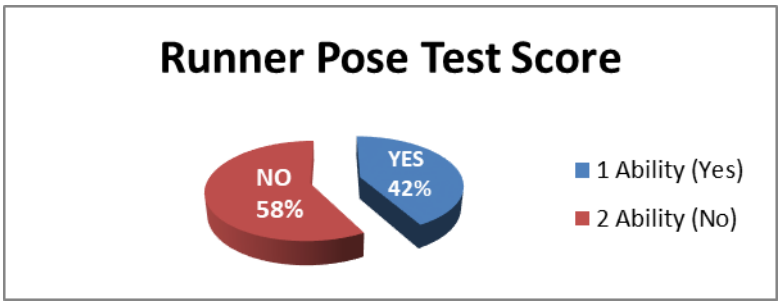

Figure 1. Score of Runner Pose Test among University Lecturers

Discussion

University lecturers are professionals who endow with education to society. They do arduous physical commotion by functioning in pitiable postures, extended standing and recurrent long sitting leading to frail musculature of the area. In several studies, only athletes are being paid attention to check instability. In the present study, we got to know that preponderance of subjects i.e., University Professors are incapable to perform the test used to check lumbopelvic instability so it states that greater part of them have weak lumbopelvic stability. In the midst of other things, psychosocial and workplace-related factors are specified more importance, such as poor posture, sitting and standing for long hours, patient shifting techniques, on- specific low back pain contributes to lumbopelvic instability has also been found in a study conducted by (Magalhães MO et al 2018). In University Professors, due to poor posture, frequent standing and sitting for long hours weakness of core muscles is seen resulting in back pain, which is one of a major cause of lumbopelvic instability. Similar results were found by (Paul W. Hodges, 2013) during a study on Pain and motor control of the lumbopelvic region where they pragmatic that trunk muscles such as rectus abdominis, pyramidalis, external abdominal oblique, internal abdominal oblique and transverses abdominis must have enough strength, and endurance to deal with to sustain these movements and be in command of them with the help of central nervous system but the patients affliction from backache even for less than one month have noteworthy lower control over these muscles an cannot hastily commence necessary activity to act in response to unpredicted challenges.

Conclusion

In this Survey, we concluded that there is a high possibility of prevalence of lumbopelvic instability in University Lecturers, as in survey we can see that more than 50% of participants are unable to perform the Runner Pose Test and around 70% of participants feels back pain while or after

teaching due to long standing hours or frequent sitting for long periods in bad postures which results in more workload on the trunk or back muscles. This excessive workload weakens the muscles and surrounding structures and it can further lead to back pains and Lumbopelvic

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Conflict of Interest: None declared