Journal of Novel Physiotherapy and Rehabilitation

Volume - 8, Issue - 1

Research Article **Published Date:-2024-03-25 10:22:08**

Management of Non-contact Injuries, Nonspecific Chronic Pain, and Prevention via Sensory Conflicts Detection: Vertical Heterophoria as a Landmark Indicator

Sensory and sensorimotor conflicts can lead to sensory and motor efficiency disturbances, such as pain and less efficient motor control. Vertical heterophoria (VH) and vertical orthophoria (VO) are respectively the latent vertical misalignment of the eyes when the retinal images are dissociated, or not. Mild VH (< 0.57°) could indicate the presence of a conflict resulting from eye refraction problems and/or a disruption of the somaesthetic cues. Canceling the conflict(s) can immediately restore VO, making it possible to observe an improvement in the mobility of spinal and peripheral joints, the performance in the motor and balance tests after initial alternation, and a decrease in pain. The Maddox Rod Test was used to detect mild VH but doesn't determine the sensory conflict origin. The aim of this retrospective study is to show its use as a landmark in which sensory afferent conflict could induce symptoms (i.e. pain; decreased range of motion; nonoptimal postural and motor control) and how to manage it, analyzing data from 525 subjects. The clinical process is intended to inhibit or neutralize afferent signals involved in the sensorimotor loops required by the central nervous system in motor control in order to spot the locus of conflict (stomatognathic system, pelvis, plantar afferences, piercings (body art) or/and eye refraction problems). This investigation protocol based on VH detection provides trackers for the therapeutic intervention in the management of nonspecific chronic pain, non-contact injuries, and prevention, and a key role for practitioners in the multidisciplinary management required for patients/athletes, in the world of work/health.

Research Article **Published Date:-2024-02-12 00:00:00**

Effect of Lower Extremity Training in Diabetic Peripheral Neuropathy

Background: Diabetic peripheral neuropathy is a symmetrical length-dependent sensorimotor polyneuropathy due to chronic hyperglycemia. The World Health Organization (WHO) identified diabetes as a major global health concern. Diabetic neuropathy is characterized by motor dysfunctions (weakness and atrophy) especially at the distal muscles of lower limbs, and impaired dynamic muscular control in type 2 diabetes patients. Symptoms start in a distal-to proximal pattern in the feet, and ankle and proximally in the hip and knee for both flexors and extensors. Proximal muscle weakness affects postural stability. Dorsiflexor weakness causes increased hip, knee flexion and metatarsophalangeal extension in the initial swing whereas weakness in plantar flexors causes a greater amount of hip and knee flexion during the stance phase.

Methodology: 34 subjects with Diabetic Peripheral Neuropathy who fulfilled all the inclusion criteria were recruited for the study. Ethical standards have been maintained and informed consent was taken. Subjects were randomly assigned by lottery method into two groups, intervention, and control with 17 in each. Since it is a single blinded study subjects were blinded about the interventions provided. Pre and post-test scores were taken before and after 4 weeks using Surface Electromyography (sEMG), Kinovea Software, Functional Gait Assessment (FGA) and Short Form -36 (SF-36).

Results: The pre and post-score values of the kinematics of gait, Functional Gait Assessment, and Short Form - 36 were analyzed using a Paired t-test and Wilcoxon Signed Rank test within the group analysis, Mann- Whitney U test and Independent t-test for between the group analysis. Both groups displayed notable variations, whereas the intervention group exhibited more significant differences ($p < 0.05$). Thus, it can be inferred that lower extremity training significantly improves gait kinematics and quality of life in diabetic neuropathy.

Conclusion: Lower extremity training is effective in improving the kinematics of gait and quality of life in diabetic neuropathy.
