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The effect of core stabilization on sport injuries

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Core is used to call lumbo pelvic-hip complex, included deep muscles like internal oblique, transversus abdominis, transversospinalis, quadratus lumborum, psoas major-minor, and also superficial muscles like rectus abdominis, external oblique, erector spinae, latissimus dorsi, gluteus maximus-medius, hamstrings and rectus femoris. It is known that a muscle is not responsible alone for ensuring the stability in the lumbar region, abdominal muscle fatigue cause hamstring injuries. Therefore, most of major muscles that provide stabilization in upper and lower extremities have been added in the core. Core weakness and instability is associated with upper and lower extremity injuries. It is expressed that lumbar extensor, gluteus maximus and hip external rotator muscles are weak in individuals with low back pain and lower extremity injuries. It is reported that thighs, trunk and hip muscle stabilization and strengthening training are important for prevention of athletic injuries. Many activities like running, jumping are unstable. Neuromuscular control requires maintaining stability and improving performance. Proprioceptive impairment in core may result in increased tension on the knee ligament and reduction of active neuromuscular control of the lower extremities. A good neuromuscular control and increased stability of lumbo pelvic-hip complex may reduce the risk of knee injuries, especially in women. It is stated that core muscles provide stability of abdomen, waist, spine and hip and also create the force required for the body rotation. It is detected that body which have the correct posture and adequately supported with core muscles, has a therapeutic role for chronic low back pain and core training increases dynamic balance. Consequently, it has seen that core training have a positive effect in terms of reducing the number of sports injuries on athletes' and improve trunk strength and stability. However, designed with different types of core training studies should be continued for understanding of the relationship between core training and sporting performance.

Biography

Veysel Akduman has completed his Bachelor degree in Physical Therapy and Rehabilitation from Afyon Kocatepe University and Master degree in Department of Physiotherapy and Rehabilitation, Sifa University. He is currently enrolled in PhD in Department of Physical Therapy and Rehabilitation, Marmara University. He is a Research Assistant at Marmara University.

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