Ultrasonographic assessment of transverse abdominal muscle in healthy subjects and patients with chronic low back pain: a systematic review

Zandi S (BSc)\(^1\), Mohseni Bandpei MA (PhD, PT)*\(^2\), Rahmani N (MSc, PT)\(^3\)

\(^1\)MSc Student in Physiotherapy, Student Research Committee, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran. \(^2\)Professor, Pediatric Neurorehabilitation Research Center, Department of Physiotherapy, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran. \(^3\)PhD Candidate in Physiotherapy, Pediatric Neurorehabilitation Research Center, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

Abstract

Low back pain (LBP) is a common and complicated disorder which is influenced by a number of factors, among them is the lack of spinal stability provided by muscle contraction. One of the most important muscles which has a role in spinal stability is musculus transversus abdominis. A literature search for the period of 2000-11 was performed in PubMed, ProQuest, Science Direct, Thomson, EMBASE, OVID, CINAHL and MEDLINE databases using musculus Transversus Abdominis, ultrasonography, chronic nonspecific low back pain as keywords. Nineteen articles were selected according to the inclusion criteria of the study. Evidences demonstrated that thickness of transversus abdominis reduces in patients with chronic nonspecific low back pain (LBP) and ultrasonography seemed to be a valid and highly reliable instrument for measuring thickness of transversus abdominis in patients with LBP and healthy subjects on different positions and states. Studies demonstrated that there are adequate evidences to confirm the merit of ultrasonography in the assessment of musculus transversus abdominis in patients with chronic LBP and healthy subjects.

Keywords: Ultrasonography, musculus transversus abdominis, Low back pain

* Corresponding Author: Mohseni Bandpei MA (PhD), E-mail: mohseni_bandpei@yahoo.com

Received 1 Jan 2012
Revised 5 Feb 2012
Accepted 15 Feb 2012