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Effectiveness of different types of therapeutic currents in penetration depth dimension**Ariel Efrat**

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Electrotherapy is used as a therapeutic tool in physiotherapy for various pathologies and for symptoms like pain, muscle denervation, wounds, etc. There are many types of currents used in clinical fields, each with marketing claims about the depth of penetration and effectiveness. To the list of currents, we added a novel technique in the physical therapy modalities: the combination of therapeutic ultrasound and currents. This study examines the effectiveness of the various currents in physiotherapy in the dimension of depth penetration. In the literature, we found few studies trying to monitor electrical stimulation in the depth of the tissue. Most of them studied the Quadriceps muscle. A review of these studies, the mythologies and the outcomes will be discussed. A research pilot in this subject will be presented. We conducted a pilot study to monitor the amount of current near the spinal cord when treating with therapeutic modalities. For this research, we enrolled patients who undergo the procedure of spinal cord stimulation, and they were implanted with electrodes a few millimeters from the cord. The implanted electrode served us as a reading electrode as we treated the back (on the skin) with various currents as: TENS, Interferential and Combination Therapy. The outcomes of the study will be discussed.

arielefr@post.tau.ac.il**Physical and psychological aspects of low back pain among Saudi patients: A case-control study****Ali M Alshami**

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Background: Low back pain (LBP) is a common public health problem, and has a multifactorial etiology that includes not only physical risk factors, but also psychosocial factors. There were several studies that investigated physical and psychosocial factors and their relationship with LBP. However, up to the researchers' knowledge, no studies have been conducted in Saudi Arabia.

Aim: To investigate physical and psychological factors in Saudi population with LBP.

Settings & Design: A case-control study using self-report measures.

Materials & Methods: Arabic versions of the following self-report measures were applied: A 10-cm Visual Analogue Scale (VAS) to measure pain intensity; the International Physical Activity Questionnaire (IPAQ) to record average physical activity levels over the last 7 days; and Depression, Anxiety and Stress Scale (DASS) to measure the negative emotional states of depression, anxiety and stress. The above self-report measures were handed to the participants and were collected immediately. 31 patients with LBP and 31 control participants matched in body mass index and age participated.

Statistical Analysis: Independent t-tests and Pearson Correlation Analysis were used to calculate differences in VAS, IPAQ and DASS between the two groups.

Results: Patients with LBP had moderate stress compared to control participants (19.8 and 4.4 respectively, $P=0.0013$). Both groups did not present with anxiety or depression. No significant difference was found in any level of activity between the groups.

Conclusions: Stress was present in the group of Saudi patients with LBP. Targeting psychological factors associated with LBP, not only on physical factors may help improve the management of patients with LBP.

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