

4th International Conference on
PALLIATIVE CARE, HOSPICE NURSING AND PAIN MANAGEMENT

September 09, 2022 | Webinar

Received date: 22-05-2022 | Accepted date: 24-05-2022 | Published date: 15-09-2022

Efficacy of pulsed low-frequency magnetic field therapy on patients with chronic low back pain: A randomized double-blind placebo-controlled trial

Khalid Abdulkareem Al-Zayed

King Fahad Specialist Hospital-Dammam, Saudi Arabia

Introduction: Low back pain (LBP) pain is most frequently musculoskeletal pain condition. Various treatment options are available to treat LBP but with modest outcomes. Researchers have indicated that the use of a weak magnetic field has immediate and long-term benefits. Limited research has been done to ascertain the efficacy of pulsed electromagnetic field therapy (PEMF) for chronic low back pain (CLBP).

Objectives:

- Assess the efficacy of PEMF therapy combined with exercise focusing on reducing pain among patients with CLBP.
- Investigate the efficacy of PEMF on reducing the sleep disturbance of patients with CLBP.
- Determine the efficacy of PEMF on improving the psychological aspects of patients with CLBP.
- Examine the efficacy of PEMF in improving the functional ability of patients with CLBP.

Find out the effect of PEMF on the global perceived effect of the change in the patients with CLBP.

Methods: Forty-two patients (22 male, 20 female), were divided into either the treatment group (PEMF and exercises) or placebo group (sham PEMF and exercises). The primary outcome measures were pain intensity on a (0-10) numerical rating scale and Secondary outcome measures were the Roland and Morris disability questionnaire (RMDQ-24), Item 6 of the Pittsburgh Sleep Quality Index (PSQI), Global Perceived Effect of Change (GPE), and Depression Anxiety Stress Scales (DASS-21). The outcomes were taken at baseline, then 20 minutes after intervention at weeks 3, 6, 9 and 13.

Results: PEMF accelerated an improvement in both pain and disability compared to the placebo group. The analysis showed a significant improvement in the pain intensity

and disability scores in the treatment group at week three, ($p < 0.05$) whereas an improvement in the placebo group was detected three weeks later, i.e. at week 6. The significant improvement in both groups was sustained for weeks 6, 9 and 13. There was, however, no difference between the group scores of pain and disability in the 6th and 13th weeks of assessments.

Discussion: PEMF therapy improves the outcome of CLBP patients. However, it is not the superior to other treatment options. On the other hand, these findings make it obvious that CLBP is a complex condition and difficult to identify an effective treatment. Therefore, each patient needs to be assessed to tailor a suitable treatment plan.

Clinical Relevance: Although in this study, PEMF has led into a significant reduction in pain intensity and self-rated physical disability in patients with CLBP, this, however, was not superior to therapeutic exercises given for the same period in the control group. There was also no significant difference between the PEMF group and control group in scores of sleep, perceived the effect of treatment, depression and stress at the different time point of assessments so the use of PEMF therapy is not the only medical option in treating patients with CLBP.

Recent Publication

1. Alzayed KA, Alsaadi SM. Efficacy of Pulsed Low-Frequency Magnetic Field Therapy on Patients with Chronic Low Back Pain: A Randomized Double-Blind Placebo-Controlled Trial. *Asian Spine J.* 2020 Feb;14(1):33-42.
2. Alsaadi SM, McAuley JH, Hush JM, Lo S, Bartlett DJ, Grunstein RR, Maher CG. The bidirectional relationship between pain intensity and sleep disturbance/quality in patients with low back pain. *Clin J Pain.* 2014 Sep;30(9):755-65.
3. Abdulla FA, Alsaadi S, Sadat-Ali M, Alkhamis F, Alkawaja H, Lo S. Effects of pulsed low-frequency magnetic field therapy on pain intensity in patients with musculoskeletal chronic low back pain:

4th International Conference on
PALLIATIVE CARE, HOSPICE NURSING AND PAIN MANAGEMENT

September 09, 2022 | Webinar

study protocol for a randomised double-blind placebo-controlled trial. BMJ Open. 2019 Jun 9;9(6):e024650.

Biography

Khalid Alzayed completed his Musculoskeletal Physical Therapy Master at the age of 38 years from Imam Abdurrahman Bin Faisal University-Dammam, Saudi Arabia. He is the Vice Chairman of the Saudi Medical Rehabilitation Association (SMRA), Riyadh, Saudi Arabia & Senior Musculoskeletal Physical Therapist, King Fahad Specialist Hospital- Dammam, Saudi Arabia

E: kaaz73@gmail.com