© J ORTHOP TRAUMA SURG REL RES
17(5) 2022
Opinion

Pain education in the management of patients with chronic low back pain

VAAGAI CACEY

Editorial Office, Journal of Orthopaedics and Trauma, France

Address for correspondence:
Vaagai Cacey, Editorial Office, Journal of Orthopaedics and Trauma, France
Vaagai_resbone@gmail.com

Statistics

Figures	00
Tables	00
References	14

Received: 11.5.2022;
Manuscript No. JOTSRR-22-79186;
Editor assigned: 12.5.2022, PreQC No. JOTSRR-22-79186 (PQ); Reviewed: 26.5.2022, QC No. jotsrr-22-79186 (Q);
Revised: 3.6.2022, Manuscript No. JOTSRR-22-79186 (R);
Published: 9.6.2022,
DOI. 10.37532/1897-2276.2022.17(5).73

Abstract

A new perspective on the management of chronic low back pain (CLBP) based on the biopsychosocial model suggests the use of pain education, or neurophysiological pain education, to modify erroneous perceptions of disease and pain, which are frequently influenced by fear, anxiety, and negative attitudes.The study's goal is to highlight the evidence on the outcomes of a pain education-oriented approach to CLBP management. The Pubmed, Scopus, Pedro, and Cochrane Library databases were searched, yielding 2673 results until September 2021.

Keywords: Pain education; cognitive behavioral therapy; chronic low back pain; chronic lumbar pain

INTRODUCTION

The role of psychological factors in the development and persistence of chronic low back pain [1] has recently received a lot of attention in the literature. Studies have found that an increasing negative attitude toward pain, fear of movement, or relapses, all play a role in the aetiology of chronic low back pain [2].

Chronic low back pain is one of the most significant and common health problems, with medical and economic consequences for patients and society alike, including increased medical expenses, lost income, lost productivity, and a reduction in compensation payments. In terms of diagnostic and therapeutic perspectives, the approach to chronic low back pain is multidisciplinary. Medical, paramedical, physiotherapeutic, psychological, and holistic approaches are all beneficial in addressing this complex illness and fully understanding and treating all dimensions and aspects of discomfort experienced by patients. Chronic pain, according to the biopsychosocial model, is caused primarily by nervous system hypersensitivity rather than the persistence of a lesion at the tissue level [3]. This neuronal hyperexcitability, which results in a lower pain threshold, is the result of a plasticity mechanism (known as central sensitization) that is sustained by negative emotions, anxiety, fear, disaster, and the fear of repercussions [4-6]. As a result, recent research has proposed the use of pain education as a treatment modality for chronic pain, particularly in clinical situations characterised by central sensitization or the presence of disease and/or pain misconceptions. Cognitive behavioural therapy (CBT), which aims to explore the links between thoughts, emotions, and behaviours, has recently been one of the most studied and used psychotherapeutic methods. It is a structured approach to treating some mental health disorders and other illnesses with the goal of reducing distress by assisting patients in developing more adaptive cognitions and behaviour. Pain education (Pain Neuroscience Education, PNE) is a treatment that consists of educational sessions aimed at providing an accurate explanation of the neurophysiology and neurobiology of pain, as well as the process of pain modulation by the central nervous system [7-9]. The goal is to modify those beliefs, rooted in the patient's psychosocial background, that feed the persistence of chronic pain, remodelling pain perception itself, and drawing positive effects, also in functional terms.

METHOD

The studies included were clinical trials and randomised controlled trials, with the goal of evaluating the efficacy of pain education-focused treatments for the management of CLBP. Only articles published in the last ten years were considered. There were no predetermined limits on the number of participants, their assignment, randomization units, the number of centres involved, or the consideration of participant preferences. CLBP-affected patients' studies were included. According to the literature, a temporal threshold of pain persistence equal to or greater than 3 months was established to consider low back pain chronic. Criteria Studies involving the use of pain education (neurophysiological education of pain) or communicative-educational interventions, such as cognitive behavioural therapy or cognitive functional therapy, as a single intervention or combined with physiotherapeutic treatments. Studies that included traditional low back pain physiotherapeutic protocols as comparison elements. Studies that included additional intervention groups in addition to the experimental and control groups [10-14].

RESULT

Following the filter selection (CT, CRT, and publication in the last 10 years), the identified articles were reduced to 616, divided among Pubmed (138 articles), Scopus (124 articles), Pedro (80 articles), and Cochrane Library (274 articles), and then further reduced to 499 after duplicates were removed (117 articles). At this point, the qualifications were screened, and 276 articles were excluded because they were unrelated to the research question. The remaining 223 articles were submitted for abstract reading, which eliminated 130 additional articles in favour of 93 eligible articles. After reading the full text of these articles, a final selection was made, and 80 more were excluded due to the previously mentioned exclusion criteria. The PEDro scale was used by two authors (RF and UB) to assess the risk of bias in the studies included in this systematic review; this tool allowed us to quickly identify which randomised clinical trials had internal validity (criteria 2-9) and sufficient statistical information to make the results interpretable.

Any disagreements between the two authors were settled through comparison or intervention by a third author.

DISCUSSION

The goal of this systematic review was to provide the most recent scientific literature on the efficacy of educational techniques in patients with CLBP, based on pain intensity and disability outcomes. The 13 studies (12 CRTs) included 1641 participants. The findings of the 13 studies were discussed separately based on the outcome measures examined. Six studies out of thirteen significantly supported more evidence in the experimental group than in the control group for pain reduction as measured by VAS, NRS, NRS-11, PBI, and CPAQ. Furthermore, another study found that the experimental group outperformed the control group, and one study found that the experimental group outperformed the control group. showed a moderate reduction in painful symptoms detected after surgery, but this was not sustained at subsequent follow-up endpoints Concerning disability, as measured by RDQ, mRDQ, ODI, HFAQ, and QBPD, it should be noted that only 11 of the 13 included articles investigated this outcome measure, but seven studies found an obvious reduction in the disability index in favour of the experimental group over the control group. The remaining studies found improvements in the outcome measures studied, but without highlighting significant differences between the experimental and control groups. As a result, the experimental intervention on the control group would have a success rate of 46.2% in terms of pain reduction and 63.7% in terms of disability improvement. These percentages cannot be interpreted in absolute terms because, as previously stated in the evaluation of external validity, the durations of the follow-ups varied between studies.

CONCLUSION

It appears difficult to express categorically the efficacy of pain education-focused treatment, or, more broadly, cognitive behavioural therapy or cognitive functional therapy for CLBP patients. However, based on the studies reviewed, methods based on pain education, CBT or CFT, combined with various types of physiotherapeutic interventions appear to be superior, with moderate evidence, to physiotherapeutic interventions alone in the medium term (range: 3 months to 1 year) in terms of pain relief and disability reduction in patients with CLBP. In any case, it could be extremely beneficial to new studies focusing on pain education in conjunction with standardised physiotherapy treatment for the management of CLBP. As a result, the latter treatment should ideally be replicated on the control group, without the use of pain education techniques or cognitive-behavioral approaches. In this way, accurate conclusions about the effects of implementing pain education in the management of patients with CLBP can be drawn.

References:

1. *Jarrod AE, Oxon MD. The incidence of Alkaptonuria: a study in chemical individuality. The Lancet 1902:161-20.*
2. *Hallowell TR, Gallagher JA, Ranganath L. Alkaptonuria: a review of surgical and autopsy pathology. Histopathology 2008;53:503-12.*
3. *Taylor AM, Boyde A, Wilson PJ, et al. The role of calcified cartilage and subchondral bone in the initiation and progression of Ochronotic Arthropathy in Alkaptonuria. Arthritis Rheum 2011;63:3887-96.*
4. *Gil JA, Wawrzynski J, Waryasz GR. Orthopedic manifestations of ochronosis: pathophysiology, presentation, diagnosis, and management. Am J Med 2016;129:536.e1-6.*
5. *Mannoni A, Selvi E, Lorenzini S, et al. Alkaptonuria, ochronosis, and ochronotic arthropathy. Semin Arthritis Rheum 2004;33:239-48.*
6. *Rasul Jr AT, Fischer DA. Primary repair of quadriceps tendon ruptures. Results of treatment. Clin Orthop Relat Res Apr 1993(289):205-7.*
7. *McNeilan RJ, Flanigan DC. Quadriceps Tendon Ruptures. In Hamstring Quadriceps Inj Athl. 2014, 103-19.*
8. *La Du BN, Zannoni VG, Laster L et al. The nature of the defect in tyrosine metabolism in alkaptonuria. J Biol Chem 1958; 230: 251-60.*
9. *O'Brien WM, La Du BN, Bunim JJ. Biochemical, pathologic and clinical aspects of alkaptonuria, ochronosis and ochronotic arthropathy: review of world literature (1584-1962). Am J Med 1963;34:813-38.*
10. *Phornphutkul C, Introne WJ, Perry MB, et al. Natural history of alkaptonuria. N Engl J Med 2002; 347: 2111-21.*
11. *Dom K, Pittevils T. Ochronotic arthropathy, the black hip: case report and review of the literature. Acta Orthop Belg 1997;63:122-5.*
12. *Emel E, Karagoz F, Aydin IH, et al. Alkaptonuria with lumbar disc herniation: a report of two cases. Spine 2000;25:2141-4.*
13. *Suzuki Y, Oda K, Yoshikawa Y et al. A novel therapeutic trial of homogentisic aciduria in a murine model of alkaptonuria. J Hum Genet 1999;44:74-9.*
14. *La Du Jr BN. Are we ready to try to cure alkaptonuria? Am J Hum Genet Apr 1998;62(4):765-7.*