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Guidelines in focus

Chronic nonspecific low back pain: Rehabilitation

Lombalgia inespecífica crônica: reabilitação

Brazilian Association of Physical Medicine and Rehabilitation
(Associação Brasileira de Medicina Física e Reabilitação)

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Description of the evidence collection method
The present study included a review of articles published in the Medline (PubMed) and other databases, without particular time limits. The search strategy was based on structured questions according to PICO (i.e., the acrostic formed by the initials of "patient", "intervention", "control", and "outcome"). The following keywords were used:

- Question 1: Low back pain AND (analgesics OR paracetamol OR acetaminophen OR dipyrone);
- Question 2: (Chronic back pain OR chronic low back pain OR chronic lumbar pain OR back pain OR lumbar pain OR low back pain OR lumbago) AND (anti-inflammatory agents, non-steroidal OR NSAIDs OR aspirin OR indomethacin OR diclofenac OR piroxicam OR tenoxicam OR meloxicam OR phenylbutazone OR ibuprofen OR naproxen OR nimesulide OR cyclooxygenase 2 Inhibitors OR valdecoxib OR celecoxib OR etoricoxib);
- Question 3: (Opioids OR narcotics OR morphine OR oxymorphone OR hydromorphone OR tapentadol or morphine derivatives OR oxycodone OR hydrocodone OR fentanyl OR tramadol OR codeine OR buprenorphine OR methadone OR dextropropoxyphene) AND (low back pain OR back pain OR lumbar pain);
- Question 4: (Chronic back pain OR chronic low back pain OR chronic lumbar pain OR back pain OR lumbar pain OR low back pain) AND (antidepressant OR duloxetine OR venlafaxine OR amitriptyline OR nortriptyline OR clomipramine OR imipramine OR desvenlafaxine OR fluoxetine OR sertraline OR citalopram OR mirtazapine OR paroxetine OR tricyclic antidepressant OR dual antidepressant);
- Question 5: Low back pain AND (muscle relaxants OR cyclobenzaprine OR diazepam OR benzodiazepines OR carisoprodol OR tizanidine OR tetrazepam);
- Question 6: Low Back Pain AND (hyperthermia, induced OR diathermy OR ultrasonic therapy OR shortwave therapy OR ultrasound OR infrared rays OR microwaves);
- Question 7: (Transcutaneous electric nerve stimulation OR TENS) AND low back pain;
- Question 8: (Physical exercise program OR exercise therapy OR muscle stretching exercises OR exercise movement techniques) AND (low back pain OR chronic low back pain);
- Question 9: (Acupuncture or electroacupuncture) AND (low back pain OR lumbar myofascial pain);

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- Question 10: Human engineering AND low back pain;
- Question 11: Low back pain AND exercise;
- Question 12: (Low back pain OR lumbar and chronic pain) AND acupuncture and economics.

Those keywords were combined according to the subject addressed by the question topics (P.I.C.O.). Following an analysis of the located articles, those relevant to the study questions were selected and analysed to establish evidence with which to support the guidelines described herein.

Degree of recommendation and strength of evidence

A: Experimental or observational studies with greater consistency.
B: Experimental or observational studies with lesser consistency.
C: Case reports (non-controlled studies).
D: Consensus-based opinions without critical assessments; physiological or animal model-based studies.

Objective

To provide information with regard to the treatment of non-specific chronic low-back pain.

Introduction

The term lumbago is defined as low-back pain. This disorder affects both genders and varies from sudden pain to short episodes of intense pain. Low-back pain is classified according to the patient's symptoms and the results of diagnostic tests, thus allowing for categories with some specificity relative to the prognosis[1] (**A**).

Low-back pain is divided into two major types, specific and non-specific[2] (**A**), and is considered specific when it can be attributed to a cause. The causes might be intrinsic, including congenital, degenerative, inflammatory, infectious, tumour-related, or mechanical-postural conditions, or extrinsic, including imbalances between functional loads and the effort required to perform tasks at work and in everyday life. Additionally, low-back pain can be caused by postural stress and acute injuries that induce structural deterioration[2] (**A**). In contrast, when no cause can be identified, low-back pain is classified as non-specific or idiopathic[2] (**A**).

The recommendations suggested in the present document apply to individuals with non-specific chronic low-back pain. Persistent pain of more than 12 weeks duration is classified as chronic[2] (**A**).

These recommendations do not apply to individuals with histories of 1 or more prolapsed intervertebral discs and concomitant neurologic symptoms; spinal surgery; infectious spondylopathies; low-back pain due to inflammation, malignant or autoimmune disease; congenital spine deformities, except for lordosis and scoliosis; compression fractures due to osteoporosis; spinal stenosis; and spondylolysis or spondylolisthesis[2] (**A**).

Currently, rehabilitation methods cannot be determined without relating the available interventions for low-back pain to economic considerations. For this reason, evidence-based guidelines help doctors and policy-makers to identify the most cost-effective treatments in order for patients to avoid both time and financial losses[3] (**A**).

1. What is the benefit afforded by simple analgesics to the control of non-specific chronic low-back pain, and how long should these drugs be used?

Acetaminophen, at a dose of 1,000 mg four times daily per the oral route (PO) over four weeks, is inferior to sodium salicylate at a dose of 500 mg twice daily with regard to reducing pain and disability in individuals with chronic low-back pain of more than 6 months' duration without associated neurologic symptoms[4] (**A**).

A combination of acetaminophen (325 mg) and tramadol (37.5 mg), given PO 4 times per day over 91 consecutive days, improved chronic low-back pain and reduced the absolute risk by 88.4% (95% confidence interval (95% CI), 78-99%), thus benefitting 1 of every 9 individuals treated with this regimen (number needed to treat (NNT) = 9; 95% CI, 5-101). The adverse events reported in the treated group included nausea (13%), sleepiness (12.4%), and constipation (11.2%). One of every 8 patients exhibited adverse events[5,6] (number needed to harm (NNH) = 8; 95% CI, 5-17) (**A**).

Evidence has been reported regarding the occurrence of severe drug-induced hepatitis as an adverse event at doses lower than 4 g[5] (**A**).

Recommendation

Acetaminophen, given at a dose of 500 mg 4-6 times per day PO over 4 weeks, is recommended for individuals with non-specific chronic low-back pain[4] (**A**).

2. What is the benefit afforded by non-steroidal anti-inflammatory drugs to the treatment of non-specific chronic low-back pain?

Non-steroidal anti-inflammatory drugs (NSAIDs) are used due to their antipyretic, analgesic, and anti-inflammatory effects. Those agents inhibit the cyclooxygenase (COX) enzyme, which exists in at least 2 isoforms, COX-1 and COX-2, and thus NSAIDs are classified according to their ability to inhibit 1 of the isoforms. The latest NSAIDs are predominantly selective COX-2 inhibitors, while the older ones are less selective[4] (**A**).

Non-selective COX inhibitors

Indomethacin, given at a dose of 25 mg thrice-daily over six weeks, was similarly effective to piroxicam at a dose of 20 mg/day for the treatment of chronic low-back pain; these drugs