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Research Article

**AN OVERVIEW OF PRIMARY CARE APPROACH TOWARD
LOW BACK PAIN****Dr. Saad Mansour Alqarni, Dr. Mohanad Mohammed Alahwal, Dr. Mohammed Hashim
Khoja****Article Received:** November 2022 **Accepted:** November 2022 **Published:** December 2022**Abstract:**

This fast assessment provides family physicians managing LBP in the primary clinic with a summary of the best available evidence to stratify and improve the quality of care, thereby optimizing patient outcomes. We examined the Cochrane Library, Medline, PubMed, and other medical databases to discover relevant articles. Published studies on the diagnosis and treatment of low back pain with the keywords "low back pain," "primary care," "family physicians," "diagnosis," and "management" through the year 2022. People with low back pain need more care, and primary care doctors are a key part of that. In working with these patients, primary care physicians have unique challenges. In primary care, many patients present with simple low back discomfort. Standards are commonly used to establish care requirements and provide criteria for evidence-based practice; however, the findings of the present study indicate that their directions are not always followed. Even though it's not possible to control or change a health care worker's attitude, experience and education may eventually break down rigid thoughts and beliefs that could hurt patient care.

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INTRODUCTION:

About 40% of people worldwide have low back pain (LBP) at some point in their life, with estimates exceeding 80% in the developed world [1]. Approximately 9% - 12% of adults feel back pain at any given time, and nearly a quarter of them (23.2%) say they have suffered for approximately one month [1]. These discomforts typically begin between the ages of 20 and 40. LBP is most prevalent in those between the ages of 40 and 80. Population aging is anticipated to increase the total number of affected individuals [1]. By duration, LBP can be classified as severe (lasting less than 6 weeks), subacute (6 - 12 weeks), or persistent (lasting more than 12 weeks). Many cases of LBP lack a specific explanation, but are believed to be the result of musculoskeletal disorders, such as sprains or muscle stress [2]. In numerous cases of LBP, the underlying cause is never identified nor sought. Obviously, imaging plays an important role with chronic patients or when a red signal is present. However, the use of such exams in instances of LBP appears to have increased due to a safety mindset [2]. Low back pain is a common symptom with numerous potential causes. In medical care, low-back pain can be classified into one of four categories: an issue outside the back spine (e.g., kidney stones); a severe disorder affecting the back spine (e.g., epidural abscess); low-back pain occurring with radicular pain (e.g., due to intervertebral disc herniation) or neurogenic claudication (e.g., due to main back canal stenosis); and nonspecific low- Nonspecific low back pain in the absence of a specific pathoanatomic medical diagnosis [3] This fast assessment provides family physicians managing LBP in the primary clinic with a summary of the best available evidence to stratify and improve the quality of care, hence optimizing patient outcomes.

METHODOLOGY:

We conducted a search through Cochrane Library, Medline, PubMed, and other medical databases to discover relevant articles. Studies on the diagnosis and treatment of low back pain, published through 2022, containing the keywords "low back pain," "primary care," "family physicians," "diagnosis," and "management." In addition, we reviewed current clinical recommendations and utilized Clinical Evidence as a source of clinically relevant data for our area of interest.

DISCUSSION:

Low back pain is a significant health issue in all developed countries and is frequently treated in primary care settings. It is typically characterized by pain, muscle tension, or tightness below the costal

margin and above the inferior gluteal folds, with or without leg pain (sciatica). Pain and impairment are the most important symptoms of non-specific low neck and back pain. The diagnostic and therapeutic management of patients with low back pain has long been marked by substantial heterogeneity among general practitioners, medical specialists, and other healthcare professionals within and between countries. Practitioner groups are often more receptive to a guideline when they recognize shortcomings in the care they give, and strangely, physicians with a strong interest in LBP are probably the group most in need of support [4,5]. After determining the current state of practice and understanding in LBP management, hurdles to change can be identified. The strategy for disseminating a newly developed, locally produced interdisciplinary guideline on LBP management can then be determined to ensure that knowledge gaps inherent to each major practice area are specifically targeted. While the current study was successful in identifying knowledge gaps and prioritizing standard dissemination, it revealed that standards have not been effective in ensuring that clients receive recommended diagnostic and therapeutic measures. A study [6] that examined general compliance among a sample of 87 family physicians found that 68% adhered to criteria on LBP, while only 6% achieved a compliance level of more than 90%. Another study [7] found no significant difference in practice conduct between specialists who were familiar with guidelines and those who were not; however, it is unclear what this implies about the effectiveness of standards. Even when professionals are well-versed in existing guideline recommendations, a number of variables can influence their level of compliance with these guidelines. In addition, a lack of agreement among healthcare practitioners who treat patients with LBP might impede the dissemination of evidence-based guideline recommendations, resulting in patients receiving divergent treatment advice. The lack of clear data for various diagnostic tests and LBP therapies exacerbates this situation.

• Determining the origin of low back pain:

Numerous physicians disregard a diagnosis of nonspecific low-back pain in favor of specific diagnoses of the anatomic structures responsible for the pain. There are two problems with this methodology. Initially, the tests used to determine structural causes of nonspecific low-back pain have unacceptable levels of validity, resulting in a tiny number of medical diagnosis [8]. For instance, the clinical energy of describing clients as having "neuropathic" back pain has not been developed; evaluating questionnaires used to identify this condition have questionable evidence for credibility

[9], and there is evidence that drugs for neuropathic pain lack clinical effectiveness. One recent high-quality randomized controlled trial (RCT) including patients with sciatica ($n = 209$) in Australia found that pregabalin, a medication for neuropathic pain, was ineffective for chronic or severe radicular pain compared to placebo [10]. Second, structural diagnoses encourage the use of structure-based therapies that have been demonstrated to be ineffective. Despite proof of their ineffectiveness, injections of anesthetics, corticosteroids, sclerosing agents, stem cells, and blood products into back structures considered to be the source of pain waste billions of dollars annually [10]. The majority of family physicians questioned their patients about the initiating event and conducted a physical examination in accordance with guideline recommendations. It is unclear if the very low ratings for examining warnings in the study by Bishop and Wing [11] were due to unfamiliarity with the term 'warnings' or ignorance of the concept. Even though 40% of physicians and 25% of physio therapists were unfamiliar with the word 'warnings,' the majority of experts reported screening their clients for significant pathology. Physiotherapists showed higher compliance rates than physicians when it came to doing an appropriate physical examination and examining warning signs.

A red flag is raised if the patient is younger than 20 or older than 50, as there is a higher likelihood of a severe cause of the pain, such as a tumor or infection. A higher frequency of genetic, developmental, and skeletal issues, such as spondylolisthesis and spondylolysis, is also observed in patients younger than 20 years. In addition, clients over the age of 50 are more likely to suffer from other catastrophic causes, such as a ruptured stomach aortic aneurysm, spinal fracture, pancreatitis, and intra-abdominal procedures.

The second area of concern with back pain is the duration of the symptoms. Although back pain is a continuum of symptoms, it is useful to classify it according to duration: severe (0-6 weeks), subacute (6-12 weeks), chronic (> 12 weeks), and persistent back pain [6]. Nonacute pain is a warning indicator because 80% to 90% of patients' symptoms resolve within 4 to 6 weeks [3,4]. The patient with subacute or persistent back pain should therefore be evaluated further via diagnostic screening. One instance in which one should be less stringent in applying this approach is in the case of a patient who has experienced pain for four to six weeks but has never

been appropriately checked or treated. In these cases, it is appropriate to follow the client closely and delay the analysis assessment while observing for improvement in the symptoms.

The patient must be questioned regarding any trauma history. Significant injury raises a red flag for possible fracture. In addition, even minor injuries in the elderly, such as falling, raise a similar suspicion of fracture due to age-related bone changes, primarily osteoporosis. Then, these individuals must be evaluated using plain radiographs of the spine to detect indications of injury [5]. One should question about systemic condition symptoms. Particularly constitutional symptoms such as fever, chills, night sweats, depression, and an unwelcome weight loss indicate a concern for infection or tumor as the cause of the neck and back discomfort. Unfavorable weight loss is defined as a loss of 10 extra pounds or more over a month that is not the result of weight loss or other weight reduction techniques [6]. If the client has any risk factors for infection, such as injectable drug usage, immunocompromised state, or a present bacterial infection, the significance of these indications increases (e.g., a urinary tract infection or pneumonia). Injection drug addiction is a substantial risk factor for spinal osteomyelitis and epidural abscess, and many physicians consider back pain in injection drug users to be an infection until proven otherwise. In addition, recent genitourinary or gastrointestinal surgeries put the patient at risk for infection due to transitory bacteremia [6].

• Advantages of a physical exam:

The physical examination of a patient with low back pain can be completed efficiently and comprehensively. The examination resembles the background because it is designed to identify red flags. Similar to any client encounters, test of the vital signals is paramount. Fever, if present, increases a warning with a suspicion for an infectious process; nevertheless, the level of level of sensitivity of fever is aggravating, varied from 27% for tuberculosis osteomyelitis to 50% for pyogenic osteomyelitis and 83% for spinal epidural abscess [5]. In one study, approximately 2% of individuals with mechanical low neck and back pain treated in a healthcare setting developed a fever, most of which were attributed to a concurrent viral illness. Therefore, although the presence of a fever is alarming, it is not diagnostic of a spinal infection [5], nor is the absence of a fever reassuring that an infection is not present.

Table 1. Red Flags of the History and Physical Examination [2-6].

History	Physical Examination
Pain longer than 6 weeks Age less than 18 or over 50 years Major trauma in the young or minor trauma in the elderly patient Neurologic complaints (e.g./ paresthesias, anesthesia, and weakness) Incontinence of bowel or bladder Night pain Unrelenting pain Fever, chills, and night sweats History of IV drug use History of cancer	Fever Point vertebral body tenderness Neurologic deficits Positive straight-leg raise

A number of studies [6,8,9] have revealed the proportion of patients with LBP who receive diagnostic tests, recommendations, or therapies that deviate from current guideline recommendations. In certain instances, however, it is unclear from these research investigations how many and what types of professionals are accountable for these behaviors. Today's paper evaluated carefully studies that identified differences in standard compliance by discipline, enabling the identification of knowledge spaces exclusive to particular professional groups. Moreover, large-scale professional surveys are susceptible to reaction bias, and the dependability of participant activities cannot be guaranteed [6]. Alternatively, while data from the two research studies [11, 12] that utilized chart review may be more consistent and reliable than data from studies, the results are less generalizable. In addition, these research studies are limited by the potential outcomes of regional standards and their reliance on the precision and efficiency of medical records for the correctness of retrospectively derived data [13]. In spite of the information set's potential for overestimation of compliance, large rates of noncompliance were nonetheless reported in certain sites of practice. Regarding the diagnosis and treatment of LBP, therefore, there is a notable knowledge gap among medical care practitioners in a number of nations. The evaluation of warning signs and utilization of diagnostic imaging by physicians was suboptimal, especially for patients with chronic LBP or sciatica. In addition, a significant proportion of physicians and physiotherapists made improper

recommendations about approved leave and continued exercise.

- **Imaging in the diagnosis of Low back pain:** The majority of individuals with low back pain do not require imaging immediately. If a specific cause of low-back pain is suspected, prompt medical diagnosis is essential for safe and efficient treatment. [Imagination is merely indicated 14] If there is little suspicion of malignancy or fracture, it may be cost-effective to delay screening and begin a treatment trial. However, if there is even the slightest suspicion of cauda equina syndrome or an epidural abscess, immediate investigation is required due to the severe repercussions of delayed diagnosis [14]. Contrary to common practice, patients with radicular pain or radiculopathy due to a presumed disc herniation or neurogenic claudication due to a presumed central back canal stenosis do not require immediate imaging because the results will not alter medical care management; the initial management of these conditions and nonspecific low-back pain is identical.

Radionuclide Imaging:

Radionuclide imaging (i.e., bone scanning) is not typically performed urgently in the primary care environment for patients with severe neck and back pain. These tests are primarily used to identify metastatic or infectious lesions of the spinal column; nevertheless, the findings are nonspecific and can reveal degenerative changes that can be difficult to distinguish from severe causes of the symptoms. Today, the application of these studies is non-emergent and primarily limited to screening for certain spinal diseases [10].

Table 2. Existing evidence for LBP across the clinical cycle of care in primary care ^[10-13].

1.Screen and assess for ‘red flags’
Neurological signs:
<ul style="list-style-type: none"> • bilateral numbness or weakness in the lower limbs, gait disturbance or ataxia. • loss of bladder/bowel function (urinary retention, incontinence, absent anal sphincter tone, patulous anus, reduced/absent bulbocavernosus reflex), sexual dysfunction, saddle anaesthesia. • unilateral multiple nerve root distribution of numbness and weakness.
Risk factors or signs of infection, systemic disease or malignancy: persistent fever, night sweats, rash, abnormal laboratory exams, intravenous drug use, recent bacterial infection, immunocompromised, history of malignancy or unexplained weight loss, nocturnal pain, <20 years and >50 years of age, non-mechanical pain.
History of trauma with any focal spinal tenderness on palpation, contusion or abrasion, altered consciousness or distracting injury.
Medication effects (i.e. corticosteroid or anticoagulant use).
Persistent or intractable pain not responding to appropriate treatment.
2.Imaging only indicated in trauma or red flags
X-ray indicated in suspected vertebral compression fracture.
MRI indicated in presence of neurological abnormalities or suspected malignancy.
CT indicated in known high-velocity trauma, poor visualization of vertebral fracture on x-ray, or if MRI contraindicated.
Pathology tests not routinely recommended unless suspected malignancy, infection, or requiring admission.
3.Pain relief is an important aspect of primary management of LBP
a.Pharmacological management
First-line analgesics should include paracetamol or ibuprofen (with consideration of their side-effect profiles in relation to the patient and their adequacy in relieving pain).
Avoid the use of opioids unless in some cases with severe pain; if prescribed, short-acting doses, for a limited duration, with consideration of the risk for misuse and abuse.
b.Non-pharmacological management
Education and reassurance: good prognosis, avoid bed rest, advice for “self care”, stay active and continue with normal activities; return to ED if ‘red flags’ arise.
Heat and/or cold packs, according to availability and patient preference.
Exercise recommendations: increase physical activity with limited focus on specific exercise prescription.
4.Referrals
GP: Patients should be encouraged to follow-up with their GP for non-specific LBP and non-serious conditions.
Specialist: Recommended in the presence of serious pathology or red flags.
Physiotherapy: Those patients unlikely to improve with aforementioned pain relief strategies may benefit from ongoing non-pharmacological treatments with a Physiotherapist.

- **Management approach toward lower back pain:**

Theoretically and practically, early identification of patients with low back pain who are at risk for long-term special requirements and approved leave is vital, as early and particular therapies can be devised and utilized in this subgroup of patients. This is of particular importance because the likelihood of healing for those with persistent low neck and back pain and impairment diminishes the longer the symptoms persist.

The change from acute to chronic low back pain is complicated, and various private, psychological, and office involved aspects might play a contribution. Increasing data indicates the significance of psychosocial factors in this regard. A newly published comprehensive review of possible friend studies indicated that sadness, depressive mood, and somatization are associated with an increased risk of persistent low back pain [15].

Table 3 presents a list of specific, psychological, and occupational characteristics that have been identified as risk factors for either the occurrence of low back pain or its progression to chronicity. "Yellow flags" have been devised for the detection of patients at risk of chronic pain and incapacity. A yellow flag-based screening device has been

validated for use in scientific practice [16]. In clinical practice and research, the predictive value of the yellow flags and the screening equipment must be investigated further.

Table 3. Risk factors for occurrence and chronicity of low back pain [15,16]

Risk factors	Occurrence	Chronicity
Individual	Age; physical fitness; weakness of back and abdominal muscles; smoking	Obesity; low educational level; high levels of pain and disability
Psychosocial	Stress; anxiety; negative mood or emotions; poor cognitive functioning; pain behaviour	Distress; depressive mood; somatisation
Occupational	Manual material handling; bending and twisting; whole body vibration; job dissatisfaction; monotonous tasks; poor work relationships and social support	Job dissatisfaction; unavailability of light duty on return to work; job requirement of lifting for three quarters of the day

In 2007, the American College of Physicians (ACP) and the American Pain Society (APS) issued clinical practice recommendations for the diagnosis and management of acute and chronic LBP [17] as part of efforts to prevent disability. Three of the seven requirements pertain to treatment and include: 1) educating the client on the course of the disease and self-care, 2) utilizing drugs with demonstrated efficacy, and 3) utilizing non-pharmacologic treatments with demonstrated efficacy [18]. Only three treatments have "excellent" evidence to support a moderate effect in the treatment of severe LBP. These three treatments include the use of nonsteroidal anti-inflammatory medications (NSAIDs), muscle relaxants, and superficial heat [18]. Using NSAIDs, exercise therapy, cognitive behavior modification, interdisciplinary rehabilitation, back repositioning, and tricyclic antidepressants were the six treatments for chronic LBP with "excellent" evidence of a "moderate" outcome [19]. Extremely "reasonable" evidence was available to support the modest effects of opioids, tramadol, and benzodiazepines [18,19]. Although the ACP and APS criteria include the use of opioids and benzodiazepines as a potential LBP treatment option, the potential side effects of therapy (i.e., the possibility of addiction and overdose) should be considered before initiating therapy.

CONCLUSION:

Low-back pain (LBP) influences roughly 40% of individuals at some time in their lives. In the event of "red flags", extra assessments must be done to discount underlying concerns; yet, biomedical

imaging is already unduly exploited. LBP incurs substantial in-hospital and out-of-hospital costs and is also the most common musculoskeletal ailment seen in primary care. The evaluation ought to be directed towards discovering the red flags, which will certainly drive the analysis process. The treatment of pain in the back has really followed a variety of styles and fads, and occupational impairment stemming from back pain continues to rise. For all these reasons, primary care physicians have a significant job in increasing the care of patients with low discomfort in the back. Primary care physician's deal with various issues in interacting with these patients. In primary care, many individuals have uncomplicated low pain in the back. Standards are commonly used to establish care requirements and provide criteria for evidence-based practice; however, the findings of the present study indicate that their directions are not always followed. While it is not feasible to command or alter the attitude of a health care practitioner, experience and education may eventually erode restrictive mindsets and beliefs that may negatively affect patient care.

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