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Adherence to Key Domains by Indian Physiotherapists in Low Back Pain Clinical Guidelines: A Narrative Review

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Abstract

Low back pain (LBP) is one of the most common musculoskeletal problems in rest of the world which causes disability, work absenteeism, and use of medical services. The therapeutic management of acute as well as chronic LBP seems to vary substantially among medical specialists and physical therapists, but there is also considerable variation in the management of LBP between countries. This narrative review investigates an adherence to clinical practice guideline (CPG) for LBP among Indian physiotherapists regarding key domains. We identified studies by using the PubMed database in August 2022 using keywords "low back pain" and "Clinical Practice Guidelines." Twenty-five articles were found and articles available on full text and study years between 2012 and 2022 were selected as inclusion criteria. Overall, physiotherapists are aware of CPGs and find it challenging to implement. Many studies showed an overall low adherence to the CPG, but adherence was best when LBP is associated with red flags. In public sector, physiotherapists were more likely to be strictly in line with the CPGs for assessing the psychosocial risk factors. Consideration of psychosocial parameters in treatment might have contributed to an increased awareness of strengths and weaknesses and a motivation to change routine practice in the management of patients with LBP.

Keywords: Adherence, Clinical practice guidelines, Low back pain

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Introduction

Low back pain (LBP) is one of the most common musculoskeletal problems in rest of the world which causes disability, work absenteeism, and use of medical services.[1,2] The therapeutic management of acute as well as chronic LBP seems to vary substantially among medical specialists and physical therapists, but there is also considerable variation in the management of LBP between countries.[3]

LBP is classified according to "diagnostic triage" that focuses on excluding specific spinal pathology and nerve root pain from non-specific causes. LBP is multifactorial and may have identifiable or "specific" causes (red flag) such as infection, tumor, and fracture that usually respond well to biomedical intervention. However, in the majority (about 90%) of cases, LBP will likely not have any demonstrable underlying pathology or apparent tissue damage relevant to the problem. Non-specific LBP can be defined as unidentifiable cause and source of pain and discomfort associated with soft-tissue spasm or stiffness ranging from an area below the 12th costal margin till above the inferior gluteal folds.[3,4] Its diagnosis is difficult as pain often ebbs and flows and could be coming from any of the adjacent anatomical structures in the lumbar region. Recent studies have suggested some[5] pathophysiological mechanisms for LBP; however, the evidence is far from conclusive.

Non-specific LBP in about 80-90% of cases tends to be acute (<4–5 weeks) and self-limiting that either resolve with little or no treatment and/or may continue to persist or reoccur for months with negligible discomfort. According to the previous studies, causes of increase in back pain may also due to depression, obesity, and increasing awareness of symptoms.[6] However, in about 10% of cases, LBP can be persistent and severely disabling beyond 6 weeks.[6,7] The biomedical model, unfortunately, in such cases – despite great advances in diagnostic techniques and treatment methods – has proved unsuccessful in achieving complete recovery;[8,9] alarmingly, the prevalence rate in recent years is on the rise. Evidence base pain management approach suggests that instead of emphasis on identifying pathoanatomy and targeting intervention at them, focus should be on factors that significantly influence the course of LBP, and are amenable to change - that is psychological, social, and environmental factors.[10,11] Appropriate early management of LBP is crucial to decrease the risk of developing chronic pain, absence from work, disability and associated morbidity.[4]

CPGs are built on frameworks of meticulous synthesis based on methodological quality and evidence hierarchy that could include meta-analyses, systemic reviews, randomized control clinical trials, observational studies, case series, and expert opinions available to health-care providers and agencies, policy-makers, educationalists, and employers in simple understandable summaries.[12] Non-acute persistent or chronic disabling LBP is an interrelating consequence of physical, psychosocial, and/or occupational factors.[6,13] As mentioned above, in the case of non-specific LBP, psychological factors seem to take a predominant role in the development and maintenance of persistent LBP.[14,15] We searched electronic databases for clinical practice guidelines (CPGs) on LBP to summarize the evidence-based recommendations for the assessment of psychological factors in LBP as well as interventions that attempt to mitigate the impact of

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psychological factors on the recovery of LBP. CPGs are " Conditions." systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific. While there are many different approaches used in the treatment of chronic LBP (CLBP), there is global consensus among clinical guidelines on the promotion of conservative rather than surgical intervention. Conservative treatment often equates to a physiotherapy-based intervention, which includes exercise and education.[16]

Since the first CPG for LBP management was described by the Quebec Task Force in 1987 (Spitzer *et al*., 1987), a number of CPGs have been published internationally (Koes *et al*., 2010; Oliveira *et al*., 2018; Pillastrini *et al*., 2012). Across these CPGs, there is agreement that evidence-based care for patients with LBP should include information about the benign nature and prognosis of LBP, advice to stay physically active (despite pain), and advice to stay at work or return to work as soon as possible (despite pain) (Koes *et al*., 2010; Oliveira *et al*., 2018; Pillastrini *et al*., 2012). Conjointly, recently, attention has turned toward identifying and examining the contribution of psychological factors such as fear of movement and catastrophizing to recovery in people with CLBP. In a review of 25 prospective cohort studies, Pincus *et al*. reported that anxiety avoidance, depression, and catastrophizing were predictive of progression from acute LBP to CLBP.

In an Indian context, management of LBP by Physiotherapist (PTs) has been investigated in only one study, published in 2010. The study found that PTs often used at least one treatment recommendation according to CPGs but, in addition, used passive treatments such as massage, heat and cold treatment, and electrotherapy, which were recommended against by the report.[17]

Previous surveys indicate that physiotherapy interventions are variable, multifaceted, and not always fully consistent with current international guidelines. Most recent epidemiological evidence has focused on the prevalence, cost implications, and management strategies associated with LBP in developed Western countries.[18] However, recent evidence has begun to highlight a significant health problem in developing countries.

Methods

The author sought to create a concise narrative review of adherence to key domains by Indian physiotherapists in LBP clinical guidelines and conducted literature search using the PubMed database in August 2022 using keywords "LBP" yielded results. "AND" was used to combine the keywords and "OR" was used to narrow the search process. In this narrative study focus on low back pain (LBP) and CPGs. PubMed used the same key words "LBP" and "Clinical Practice Guidelines." Twenty-five articles were found and articles available on full text and study years between 2012 and 2022 were selected as inclusion criteria. The bibliographies of particularly relevant articles were also searched.

Results

Factors Affecting Low Back Ache

One of the important aspects is biopsychosocial model which identifies that depression, anxiety, poor coping, and self-efficacy strategies are responsible for more pain, work loss, lack of social participation, and disability.[23]

One review guidelines show that the assessment of psychosocial factors helps in knowing barriers to recovery and predicting prognosis. The identified goals are divided into specific subgoals that can be gradually progressed in a stepwise fashion. The goals must be meaningful and realistic. The PT maintains effective communication at all times and monitors activities for responsiveness and modifications and provides reinforcement. The objective is to maximize patient expectations of functionally relevant but realistic outcomes and minimize pessimism. These approaches should be patient centered by considering individual differences such as cultural background, socioeconomic status, work-related demands, health habits, coping skills, and other contextual factors. Psychology-based therapy should be clearly delineated for PTs' professional competency and scope of practice.[24]

A strong correlation was also found between the psychosocial factors and back pain. Further studies need to be carried out for psychosocial factors such as catastrophizing and fear avoidance as there is insufficient evidence to support interventions to be involved from acute to chronic back pain.[25] It was found that more focus should be made on the assessment and management of psychological and psychosocial factors by physical therapists on the LBP individuals. Hence, further psychological practice approach indeed should be included for future investigation and management and clinical recommendations regarding musculoskeletal pain disorders.[26] Many prognostic factors in primary care lead to long-term disability in acute/subacute and chronic back pain patients. Some of the well-known factors are unemployed; baseline level of disability, pain, and catastrophizing are the strongest predictors in both groups; and fear of pain was more chronic conditions. Hence, further research should be carried out in identifying early predictors of outcome in chronic back pain persons with clinical significance as targeted treatment and screening approaches depend on these factors.[15]

A study done by Damian Hoy *et al*. (2010) conducted to estimate the global burden of LBP and systematic reviews was performed of the prevalence, incidence, remission, duration, and mortality risk of LBP and concluded that back pain (BP) causes more global disability than any other condition. With the aging population, there is an urgent need for further research to better understand LBP across different settings.[27]

Management of Chronic Low Back Pain

Clinicians should also use evidence-based practice and separate decisions for specific patients. Educating patients about the condition, self-management activities such as recreational activities, staying active, health-promoting and self-monitoring activities, and decision-making are key features for prevention of LBP. This study shows that cognitive behavioral therapy is also found to be effective at lower cost in chronic pain individuals.[28]

One of the surveys shows that despite evidence-based guidelines developed for back pain, their implementation into clinical practice for the effect and outcome of treatment on patients is rare. Measures should be taken for the minimization of the gap for better improvement.[29] Uncertainties regarding the use of interventions such as diagnostic tests, therapies, and surgery for LBP need to be reduced for improvement in back pain.[30]

Many therapeutic techniques such as exercise (stretching and strengthening) and massage therapy, yoga, CBT, and spinal manipulation are found to be effective in CLBP patients that may vary according to the condition. Some studies found that

Table 1: Description of study

Characteristics	*Article*	*Adherence to CPG*
Awareness regarding clinical practice guidelines for non-specific LBP among therapists	Adherence to low back pain clinical practice guidelines by Saudi physical therapists: a cross-sectional study Author: Walaa M. Moslem , Muhammad Alrwaily, Maha M. almarwani	Physiotherapists are aware of CPGs and find challenging to implementing it. The study showed an overall low adherence to the CPG. Adherence was best when LBP is associated with red flags. Education and training programs may be needed to improve PTs' adherence to CPG for LBP. Physiotherapists increased their confidence and biopsychosocial orientation after implementation of CPG.[19]
Consideration of psycho social parameters in treatment Physiotherapists consider a cognitive and emotional assessment	Quality of Primary Care Guidelines for Acute Low Back Pain Author: Maurits W. van Tulder, Mariska Tuut, Victoria Pennick, Claire Bombardier, and Willem JJ Assendelft	It might have contributed to an increased awareness of strengths and weaknesses, and a motivation to change routine practice in the management of patients with low back pain.[20]
Physiotherapy practice in private clinic and public sector	Adherence to key domains in low back pain guidelines: A cross-sectional study of Danish physiotherapists Authors: Maja Husted, Camilla B. Rossen, Tue S. Jensen, Lone R. Mikkelsen, Nanna Rolving	In public sector, physiotherapists were more likely to be strictly in line with the CPGs for assessing the psychosocial risk factors.[21]
Preferred physiotherapy treatment	Rehabilitation for Low Back Pain: Narrative Review for Managing and Improving Function in Acute and Chronic Conditions Author: Joseph V. Pergolizzi Jr., Jo Ann Lequang	Biopsychosocial intervention for LBP was found to be more practical than educational/advice for low back pain. Exercises and cognitive behavior therapy found to be a valuable approach to the patient with chronic back pain. Many patients reported benefits from cognitive behavior therapy as chronic low back pain having psychosocial dimension also.[22]

biopsychosocial intervention is more effective than education/advice for LBP. Incorporating biopsychosocial aspect to physiotherapy is identified as being important; however, there are limited evidence to inspire how this can be included in clinical practice.[31]

Clinical Physiotherapy Guidelines in Low Back Pain

Maja Husted *et al*. (2019) conducted a cross-sectional study done to investigate the adherence of CPGs in between the private and public health-care centers for activity, work, and psychosocial domains and management of LBP, and they found that adherence to one domain is more frequent. Further assessment of psychosocial risk factors and advice regarding usual activities is also considered an important aspect along with two domains. Public PTs mostly prefer CPGs for psychological risk factors. The author sought to create a concise narrative review of adherence to key domains by Indian physiotherapists in LBP clinical guidelines. Literature search was conducted in PUBMED database in August 2022 using keywords "LBP" and "CPGs". "AND" was used to combine keywords and "OR" was used to narrow the search process. Articles available as full texts and study years between 2012 and 2022 were selected as inclusion criteria. Twenty five articles were found. The bibliographies of particularly relevant articles were also searched. Hence, it was concluded that overall, the participating Danish physiotherapists strictly adhered to only one out of three key domains.[17,21]

Most of the evidence suggested that physical therapists should consider thrust manipulation for pain reduction in patients with mobility deficits and acute low back and back-related buttock or thigh pain. Thrust manipulative and non-thrust mobilization techniques can also be used to improve spine and hip mobility, pain reduction, and disability in patients with subacute and chronic low back and back-related lower extremity pain. Majority of evidence-based recommendations consider flexion exercises, combined with other interventions, such as manual therapy, strengthening exercises, nerve mobilization procedures, and progressive walking, for reducing pain and disability in older patients with CLBP with radiating pain.

There is a conflicting evidence for effectiveness of intermittent lumbar traction for patients with LBP. There is preliminary evidence that patients with sign of nerve root compression along with peripheralization of symptoms or a positive cross straight leg raise will benefit from intermittent lumbar traction. There is a weak evidence that physical therapists should consider utilizing lower-quarter nerve mobilization procedures to reduce pain and disability in patients with subacute and CLBP and radiating pain.

Individualized decisions should be taken appropriately depending on patients' symptoms, response to treatment, based on clinicians' experience and with expertise advice. Hence, the guidelines suggest that surgical interventions should be preferred for the patients with non-specific back pain after 3 months to 2 years after failed non-surgical interventions.[32,33]

Most of the evidence-based recommendations also consider the outer aspects of treatment such as risks, side effects, costs, and ethical issues, and they do not guarantee about the usage in daily practice. Hence, future implementation of strategies should be made for proper uptake of guidelines as it could be very challenging.

Conclusion

Overall, physiotherapists are aware of CPGs and find challenging to implementing it. Studies showed an overall low adherence to

the CPG, but adherence was best when LBP is associated with red flags. Education and training programs may be needed to improve PTs' adherence to CPG for LBP. In public sector, physiotherapists were more likely to be strictly in line with the CPGs for assessing the psychosocial risk factors. Consideration of psychosocial parameters in treatment might have contributed to an increased awareness of strengths and weaknesses and a motivation to change routine practice in the management of patients with LBP.

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