

Low Back Pain Among Healthcare Workers: Patterns, Correlates, Prevention and Management - A Structured Narrative Review

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Abstract

Background: Low back pain is a leading cause of disability and an important occupational-health problem. Healthcare workers may experience repeated manual handling, prolonged standing or sitting, awkward postures, high workload and psychological strain.

Objective: To synthesise evidence on the burden, clinical pattern, correlates, prevention and management of low back pain among healthcare workers, with attention to Nigerian practice settings.

Methods: A structured narrative review drew on peer-reviewed studies, systematic reviews and clinical guidelines identified through searches of PubMed, Scopus, Web of Science and Google Scholar. Evidence was organised around epidemiology, occupational and psychosocial correlates, assessment, management and prevention.

Synthesis: Low back pain is common among healthcare workers, although prevalence varies by profession, setting, case definition and recall period. Frequently reported correlates include patient handling, repetitive bending and twisting, prolonged static posture, inadequate staffing, longer occupational exposure, obesity, smoking, physical inactivity and psychological distress. Most presentations are non-specific. Assessment should identify serious spinal pathology and neurological compromise while avoiding routine imaging in uncomplicated cases. Recommended care emphasises education, continued activity, structured exercise and a biopsychosocial approach. Prevention requires organisational action as well as individual behaviour change.

Conclusion: Healthcare-worker low back pain should be addressed as a systems and occupational-health problem. Nigerian facilities need locally adapted surveillance, safe patient-handling systems, ergonomic redesign, adequate staffing, early access to evidence-based care and evaluation of intervention effectiveness.

Keywords: low back pain, healthcare workers, occupational health, ergonomics, Nigeria, narrative review

Introduction

Low back pain is pain or discomfort between the lower rib margin and the gluteal folds, with or without leg symptoms. Most presentations are non-specific, meaning that no single identifiable structural disease explains the symptoms. In 2020, an estimated 619 million people were living with low back pain globally, with projections of approximately 843 million by 2050 [1,2]. It is a leading cause of years lived with disability and affects work participation, productivity and quality of life.

Healthcare workers may be particularly exposed because clinical work combines physical tasks, time pressure, emotional labour and organisational constraints. Patient transfer, lifting, prolonged standing, bending, twisting, static sitting, poorly designed workstations and inadequate recovery time may contribute. The burden differs across nurses, physicians, physiotherapists, laboratory personnel, porters and other staff. Prevalence estimates must be interpreted in relation to profession, setting, measurement period and study quality.

This review examines patterns and correlates of low back pain among healthcare workers, outlines

clinically appropriate assessment and management, and identifies prevention priorities for healthcare organisations, particularly in Nigeria.

Review methods

The review used a structured narrative approach. Electronic searches were reported for PubMed, Scopus, Web of Science and Google Scholar, supplemented by clinical guidelines and reference lists. Search concepts included low back pain, healthcare workers, occupational low back pain, musculoskeletal disorders, prevalence, risk factors, health professionals and ergonomics. English-language evidence involving healthcare professionals and addressing epidemiology, correlates, diagnosis, management or prevention was considered. The synthesis was thematic rather than quantitative.

Burden and clinical pattern

Global estimates establish low back pain as a major population-health problem, but healthcare-worker

prevalence varies widely because studies use different occupational groups and definitions [2]. Nigerian evidence similarly reports a high burden in hospital workers and identifies prolonged postures, patient handling and other workplace exposures as relevant correlates [3-5]. Cross-sectional studies cannot determine whether each exposure caused pain, and workers with severe symptoms may leave demanding roles, producing a healthy-worker effect. Symptoms may be acute, subacute or chronic. Mechanical or non-specific pain is commonly localised to the lumbar region, may fluctuate with activity and usually lacks features of systemic disease. Recurrence is common. Chronicity and disability are influenced by pain intensity, previous episodes, occupational demands, sleep, mood, fear-avoidance, catastrophising, social support and workplace accommodation [6].

Table 1: Correlates among healthcare workers

Domain	Commonly reported correlates	Interpretive caution
Physical and ergonomic	Manual patient handling; lifting; bending; twisting; prolonged standing or sitting; repetitive tasks; poorly adjusted workstations.	Most evidence is observational; exposure measurement is often self-reported.
Work organisation	Long shifts; high workload; inadequate staffing; insufficient recovery; limited access to lifting aids.	Organisational factors may cluster and interact with profession and seniority.
Individual and health	Previous low back pain; increasing age; obesity; smoking; physical inactivity; comorbidity.	Age and sex are not modifiable; associations do not justify discriminatory work assignment.
Psychosocial	Stress, depression, low job control, poor workplace relationships, fear-avoidance and catastrophising.	Psychological factors influence pain and disability but do not imply that pain is unreal.

A systematic review of Nigerian and South African evidence found a range of individual and occupational correlates, while a recent study at Aminu Kano Teaching Hospital reported substantial lower-back-pain burden among healthcare workers [4,5]. These findings support facility-level action but should not be used to infer precise causal effects without longitudinal or interventional data.

Assessment and diagnosis

Clinical assessment should establish symptom duration, functional impact, occupational exposures, neurological symptoms, previous episodes, comorbidities, psychosocial factors and patient concerns. Examination should assess gait, movement, neurological function and signs that may indicate a specific cause. Red flags include major trauma, progressive neurological deficit, bladder or bowel dysfunction, fever, unexplained weight loss, a history of malignancy or immunosuppression, and severe unremitting pain.

Routine imaging is not recommended for uncomplicated non-specific low back pain because common degenerative findings correlate poorly with symptoms and may increase unnecessary intervention. Imaging and specialist referral should be guided by suspected serious pathology, significant neurological compromise or failure of an appropriate conservative pathway [1,7].

Management

Management should be person-centred and biopsychosocial. The 2023 WHO guideline for chronic primary low back pain recommends a package of non-surgical interventions selected according to the person's circumstances rather than a

single isolated treatment [7,8]. Core elements include clear explanation, support for self-management, continuation of meaningful activity and structured exercise.

Exercise approaches may include aerobic, strengthening, motor-control, stretching and graded functional activity. A systematic review found benefits from core-stability exercise for non-specific low back pain, although programme content and certainty vary [9]. Psychological interventions, including cognitive-behavioural approaches, can reduce pain-related distress and disability, particularly when fear, avoidance or catastrophising sustain functional limitation [10]. Medication, where indicated, should be time-limited and consistent with current guidance and individual risk.

Healthcare workers require occupationally informed management. Temporary task modification, graded return to work, ergonomic assessment and supervisor support may prevent avoidable absence. Prolonged bed rest and unnecessary restriction can worsen deconditioning and fear.

Prevention and organisational response

Prevention should not rely solely on telling workers to improve posture. Effective programmes combine safe patient-handling systems, lifting aids, appropriate staffing, workstation redesign, training, early symptom reporting, access to physiotherapy or occupational health, and supportive return-to-work procedures. Education alone is unlikely to overcome unsafe staffing or equipment shortages.

Lifestyle interventions that combine physical, behavioural and educational components may improve chronic non-specific low back pain,

although durability of benefit remains uncertain [11]. Facilities should monitor musculoskeletal injury by unit and occupation, investigate clusters and evaluate whether interventions reduce pain, disability, sickness absence and compensation costs.

Implications for Nigeria

Hospitals should conduct periodic ergonomic and musculoskeletal-risk assessments by ward and staff category.

High-risk units should receive functional lifting aids, adequate staffing and practical training in patient transfer.

Occupational-health pathways should support confidential early assessment, evidence-based treatment and graded return to work.

Research should use consistent case definitions, validated disability measures and longitudinal or intervention designs.

Workplace programmes should evaluate clinical, functional and economic outcomes rather than attendance at training alone.

Limitations

The supplied review did not provide reproducible database search strings, search dates, record counts or a formal quality appraisal. The synthesis may therefore be affected by selection and publication bias. Much of the occupational evidence is cross-sectional and based on self-report, limiting causal interpretation. Prevalence estimates from different professions, countries and recall periods should not be pooled informally.

Conclusion

Low back pain is a substantial occupational-health challenge among healthcare workers. The most

defensible response combines clinically appropriate assessment and biopsychosocial care with organisational prevention, safe patient handling, ergonomic redesign and adequate staffing. Nigerian facilities should move from isolated posture education to monitored, system-level programmes that protect workers while sustaining patient care.

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