EDITORIAL

Multidisciplinary management of lower back pain in low-middle income countries (LMICs), modelled on Bangladesh

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The World Health Organization (WHO) states that lower back pain (LBP) is the leading cause of disability globally. In 2020, approximately 1 in 13 people, equating to 619 million people, experienced LBP. Cases of LBP are expected to rise to an estimated 843 million by 2050, with Africa and Asia representing a significant proportion of this, as populations here are getting larger and people are living longer (though this modelling should be interpreted with caution due to an absence of primary data, especially from LMICs)[1].

There is a substantial financial and psychosocial cost of LBP to individuals and health systems[2,3], made worse by a lack of standardised care in LMICs[4] which is currently resulting in prescription of potentially harmful medications, inappropriate imaging, unhelpful non-pharmacological interventions and unnecessary invasive procedures that carry significant side effects[5,6]. Improving care for people with LBP has the potential to improve the health of a substantial cohort of patients and enables them to better participate in rehabilitation, interact socially and contribute to the economy by returning themselves and their carers to work[7,8].

Therefore, in November 2025, a multidisciplinary meeting of clinicians and allied health professionals held a one day symposium in Dhaka to share best practice and advances in the treatment of LBP. The consensus agreement from the symposium was the need to develop a National Guideline for the treatment of lower back pain in Bangladesh. This editorial will summarize the considerations necessary to develop a rational and practical guideline for LBP treatment in Bangladesh that takes into account peer-reviewed medical evidence and the restrictions of health care delivery in a resource-poor setting.

First world countries have national standards of care developed by clinicians and published by the government, such as the UK's National Institute of Clinical Excellence (NICE) guideline 59, 'Low back pain and sciatica in over 16s: assessment and management'[9]. Any such guideline published by Bangladesh's Ministry of Health and Family Welfare would need to follow Bangladesh's National Health Policy (2011) that aims to ensure equity of 'quality of healthcare services to all citizens', comprehensive care and accessible services. 'Gold standards' of LPB care are well established, but some of the 'must-have interventions' mandated in Western countries would need to be re-named as 'ideal standards' as they are resource-heavy, which

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is lacking in Bangladesh. Therefore, a Bangladesh guideline must allow flexibility in assessment and delivery whilst retaining the scientific basis behind the recommendations.

In December 2023, WHO published a guideline to provide evidence-based recommendations on non-surgical interventions for chronic primary LBP that can be delivered in primary and community care settings[1]. However, for Bangladesh to produce a comprehensive guideline for LBP management, it must have multi-disciplinary input to develop treatment pathways that are cost-effective and evidence-based. WHO 'Best Buys' are high-impact interventions designed to combat the rising burden of non-communicable diseases (NCDs), particularly in low- and middle-income countries[10]. They are discussed below in the context of developing a LBP guideline for Bangladesh. The logic behind 'Best Buy' interventions is to prioritize maximum health gain for minimum investment, focusing on prevention (population-wide measures) and primary care (individual interventions) to reduce premature mortality from diseases like cardiovascular disease, cancer, diabetes, and chronic respiratory disease.

If one applies the Core Logic of WHO Best Buys and the WHO 'Health Systems Building Blocks' model[11] to combat the rising burden of non-communicable diseases (NCDs) in low- and middle-income countries like Bangladesh, a national LBP guideline would need to prioritize maximum health gain for minimum investment, focusing on prevention (population-wide measures) and primary care (individual interventions) to reduce LBP disease progression, so as to minimize expensive surgical intervention and/or development of high-cost complications and permanent morbidity (e.g. cauda equina syndrome (CES)). WHO best buys include:

- **Cost-Effectiveness & Feasibility:** effective service delivery packages would prioritise patient education, yoga and physio rather than surgery and the roles and responsibilities of healthcare workers would need to reflect this. Building a national LBP health surveillance infrastructure will be necessary to make informed decisions about ongoing service needs, workforce requirements and health expenditure.
- **Population-Wide Prevention:** e.g. implementation of a national weight-loss education program, that emphasizes reducing this risk factor for LBP, rather than relying solely on treatment.
- **Essential Clinical Care (Primary Care):** developing local service models and pathways where the focus is on screening, managing pain and acting on red flags to avoid acute, high-cost complications (CES / foot drop).
- **System Strengthening:** Building a health care policy that recognises the socio-economic benefits of treating LBP and implementing a robust, equitable and sustainable health system, that is proactive rather than reactive.
- **Diet and Physical Activity:** Reducing salt consumption in processed foods, replacing trans-fats with unsaturated fats, and promoting physical activity.

The Best Buys are closely linked to the WHO Package of Essential Non-Communicable Disease Interventions (WHO PEN). If we apply this framework to LBP,

- **Protocols for Primary Care would** allow nurses and primary care doctors to manage LBP, as medical resources are scarce in the rural setting and specialist care, if available is unregulated (reflecting a lack of National Standards of care) and unaffordable.
- **Essential Medicines would** list the basic drugs used to treat LBP (e.g., acetaminophen, ibuprofen and gabapentin (specialist prescription only)) and diagnostic tools (e.g., spinal radiographs, if applicable) that should be available at primary care facilities.
- **Emergency Response would** document how and when to escalate cases of incomplete / complete cauda equina syndrome, with a national program of education to prevent development of this rare but potentially permanent complication. The "LBP emergency response kit" would provide indications for referral to spinal orthopaedics / neurosurgery and when to arrange same day or urgent MRI scans of the lumbar spine

Implementation Challenges of the WHO Best Buys include:

- **Scope Limitations:** LBP affects 60-80% of the population at some point in their lift, with a significant socio-economic cost. However, some may argue that if the Bangladeshi government prioritizes treatment of LBP, other major, non-lethal, or life-long chronic illnesses, will be ignored.
- **Implementation Gaps:** Despite being cost-effective, operationalization of published guidelines will be limited by a lack of resources, trained staff, or data. Workforce competency and resource gaps will need to be addressed to build the capacity to provide a person-centred, biopsychosocial shared understanding for care.
- **Need for Context:** A 'one-size-fits-all' approach may not be accepted by patients, who trust local culturally-based (non-medical) interventions – and may have little faith in top-down mandates of the government and medical profession. This often results in a local form of health 'tourism' to find an (often expensive) treatment that fits their beliefs rather than their medical signs and symptoms.

A potentially significant resource that could improve compliance with guidelines is the use of mosque-based education sessions by faith leaders who have been educated in the management of LBP. A recent randomized clinical trial integrated Islamic teachings with structured guidance on diet, physical activity and behaviours modification, delivered by imams and trained female assistants. Compared to the control group, the intervention significantly reduced Type 2 diabetes incidence in the at-risk population being studied[12]. This suggests that education on LBP by trusted community members may also prevent LBP progression and complication, as well as improving compliance with simple (pre-surgical) interventions.

A Guideline for treatment of LBP in Bangladesh would need to be achievable rather that aspiration and must therefore explicitly consider:

- Cost to the patient (out-of-pocket payments)
- Availability of medicines & equipment
- Workforce shortages
- Transport barriers
- Literacy and health literacy
- Cultural acceptability (gender, family decision-making, stigma)

With the lack of specialists in Bangladesh, coupled with lack of hospitals and trained staff in rural settings, NICE-style guidelines based on a hospital-centric model would not work. A multidisciplinary approach to development of a national guideline on LBP management is required[13]. Specialists involved would include pain management clinicians, neurosurgeons, spinal orthopaedic surgeons, and rheumatologists, radiologists with input from specialties with pathologies that mimic back pain, such as urologists, vascular surgeons and primary care physicians. Data informatics specialists, health financing agencies, civil society organizations, private sector representatives, and people with lived experience of LBP will be need to be consulted to sustainably implement such a guideline[14]. A successful rollout will build interdisciplinary workforce competencies and patient education in LBP care.

LBP management will require triage, diagnosis and simple management by nurses, community care practitioners (CHCPs), Family Welfare Visitors

Applying a resource-stratified framework for management of LBP

High-income Economy	Bangladeshi Lower-resource setting
Full diagnostic testing	Syndromic / clinical diagnosis
Specialist-led care	Trained generalist / nurse-led care
Advanced imaging	Basic exam + red-flag referral
Continuous monitoring	Intermittent, community-based follow-up
Digital systems	Paper-based or mobile-phone tracking

(FWVs), Sub-Assistant Community Medical Officers (SACMOs), Medical Officers, Physiotherapists and rehabilitation workers – i.e. shifting care as close to the community as possible. This includes patient education into the importance of physical activity[15]. The guideline would define clear referral triggers, evidenced by risk calculators, as there are not the resources for blanket referrals. Follow-up would have to be community-based with onward referral to a specialist only in the presence (or significant risk of) red flags or treatment failure.

It is out with the remit of this editorial to describe the presentation, investigation, management and comprehensive service delivery of LBP. Appendix 1 includes some preliminary guidance that a working group of clinicians and allied health professionals could use to help develop and implement a guideline for management of LBP in Bangladesh. System (macro), service (meso) and clinical (micro)-level transformations to support LBP care delivery aligned with the Guideline's recommendations will redress, in part, the current landscape of low value care for LBP and contribute to reducing its burden.

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