

LETTER TO THE EDITOR

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# High value and cheap musculoskeletal health care interventions: lessons for low- and middle-income countries

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To the Editor,

The Global Burden of Disease Study 2019 reported low back pain and other musculoskeletal disorders constitute the top ten cause of disability-adjusted life-year and are common from teenage years into old age [1]. The number of people experiencing musculoskeletal conditions in the coming decades will increase in low- and middle-income countries (LMICs) [2]. In addition to the likelihood of risk factors such as increased life expectancy and obesity associated with musculoskeletal conditions in high-income countries becoming more common in LMICs, the burden of musculoskeletal conditions will increase as a result of physically demanding agrarian work, and arduous portering due to poor access to modern transportation system [2].

In the past decades, the largest increase in disability due to low back pain occurred in LMICs, including Asia, Africa, and the Middle East region [2], where resource-constrained health and social systems are stressed by other burdens including infectious diseases, child and maternal health, and non-communicable diseases. The Lancet series on low back pain reported healthcare professionals in LMICs are providing wrong care for low back pain [3], resulting not only in burdens to individuals, communities, and health care systems but also contravening the 2010 Declaration of Montreal, which recognises pain relief as fundamental human right.

Therefore, LMICs should develop innovative health policies to address this concern with fiscally cheaper but high value care. In this paper, the musculoskeletal conditions refer to the chronic, non-traumatic musculoskeletal pain disorders.

## Judicious usage of radiological imaging

Injudicious radiological imaging is expensive while it may not yield any clinical benefit. For example, an MRI scan would cost up to one third of average monthly household income in Nepal [4]. Likewise, MRI scanning on patients with early stage of non-specific low back pain is likely to encourage surgeries, consequently incurring greater costs of care, increased usage of prescribed opioids, and increased intensity of pain during follow-up sessions [5]. The MRI and ultrasound tend to establish causal relationship between structural abnormalities and symptoms, leading to medicalising normality and necessitating unwarranted interventions on normal age-related changes that are unrelated to the symptoms [6].

Conversely, a review of high-quality clinical guidelines recommends imaging only if (i) serious pathologies such as infection, malignancy, fracture, inflammatory cause of pain, progressive neurological deficits including cauda equina syndrome, and serious pathology mimicking musculoskeletal pain such as aortic aneurysm are suspected; (ii) unsatisfactory response to exhaustive and evidence-based conservative management and unexplained progressions of signs and symptoms are observed; and (iii) imaging will likely change the management [7].

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### Surgery—an expensive placebo

Advancement in assessment and management of musculoskeletal conditions such as fracture have improved patient care [6]. However, many surgical procedures in musculoskeletal healthcare are no better than skin incisions and sham surgery as far as pain is concerned [8]. Such surgeries include excision of degenerative portion of extensor carpi radialis brevis in lateral elbow tendinopathy and arthroscopic lavage and debridement of osteophytes in knee osteoarthritis. These surgeries are not only expensive for healthcare systems and patients but are also associated with increased clinical risks and often do not offer additional clinical benefits [6].

### Opioids—no more a panacea for all ills

The opioid epidemic in some developed countries is an example of how modern medicines are related to serious side effects. In the USA, since 1999, almost half a million people died from opioids overdose, with more than 50,000 deaths in 2019 alone. Likewise, the prolonged use of non-steroidal anti-inflammatory drugs is associated with about 100,000 hospitalisation and 17,000 associated deaths annually in the USA [9].

Opioids could be helpful for palliative care, cancer pain, and acute post-surgical pain; however, its use in persistent pain is associated with hyperalgesia, dependence, death, and poor functional outcomes. Non-steroidal anti-inflammatory drugs such as paracetamol are ineffective for low back pain and provide only short-term relief in osteoarthritis [10]. Additionally, clinical practice guidelines consistently recommend non-pharmacological treatments such as physiotherapy and psychological therapies for persistent musculoskeletal pain disorders.

### Way forward

Non-surgical and non-pharmacological management in non-traumatic musculoskeletal conditions are relatively cheap, safe, and effective. Such management includes patient-centered education, physical activity and exercise, social activities, healthy sleep habits, body weight management, remaining in the employment, and psychological therapies. Graded activities and exercises are as effective as surgery for shoulder pain, knee pain, and ankle sprains [6]. Therefore, it is sensible for LMICs to prioritize equally effective but cheaper management options over traditional surgical and pharmacological treatments.

### Abbreviations

LMICs: Low- and middle-income countries; MRI: Magnetic resonance imaging.

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