Science Discovery Medicine
2026, Vol. 1, No. 2, pp. 79–84
https://doi.org/10.11648/j.sdmed.20260102.13

Review Article

Chronic Non-Cancer Pain in the UAE: A Review of Clinical Challenges in Practice

Muna Adan[1, *], Hodan Hersi[2], Ayan Hag[3]

[1]School of Health and Social Work, University of Central Lancashire, Preston, United Kingdom

[2]Nursing and Midwifery Department, Hamad Medical Corporation, Doha, Qatar

[3]Department of Global Health and Development, The London School of Hygiene & Tropical Medicine, London, United Kingdom

Abstract

Chronic non-cancer pain (i.e. non-cancer pain that lasts ≥3 months) is common, complex and a distressing long-lasting morbidity. The Global Burden of Disease Study 2016 restated that chronic pain is an insidious public health burden and a leading cause of disability globally. However, chronic non-cancer pain in the UAE has received little attention and insufficient information is available on the social, cultural, psychological determinants and management-care available in the region. If left untreated chronic non-cancer pain can lead to a myriad of negative effects on patients' physical and psychological well-being as well as adverse effects on quality of life and work productivity. The condition poses a significant financial burden to patients, families and society at large. Various treatment options including non-pharmacological and pharmacological interventions exists, but there are number of challenges with the current clinical management options. Further, in the UAE, the receding increase in sedentary behavioural lifestyle may further adversely impact the prognostics and consequences of chronic non-cancer pain. In this commentary, we expand on the current confronting challenges in the management of chronic non-cancer pain in the UAE in the pursuit of highlighting some contextual factor that could help meet patient's health needs in the region.

Keywords

Chronic Pain, Primary Care, Multimorbidity

1. Introduction

Pain has increasingly become recognized as a common global health concern. Internationally, it is estimated that 1 in 10 adults are diagnosed with long-term pain every year [1]. The International Association for the Study of Pain (IASP) defines pain as "*an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage, or both*" [2]. The definition takes into consideration that pain stimulus is not always due to tissue damage or a potential pathophysiological cause. Furthermore, chronic pain is a term used to describe a pain that outlasts its usefulness as a warning system and is not embedded in cancer. Chronic non-cancer pain (CNCP) becomes a debilitating disease of its own, and it encompasses a large

*Correspondence: Muna Adan (Muna.Adan@london.uclan.ac.uk)

Received: 10 June 2025; **Accepted:** 16 March 2026; **Published:** 10 April 2026

Copyright: © The Author(s), 2026. Published by Science Publishing Group. This is an **Open Access** article, distributed under the terms of the Creative Commons Attribution 4.0 License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

number of pain conditions each with its own distinct differences. For example, rheumatoid arthritis pain, is less likely to be reversible in its healing, whereas pain caused by migraine headaches remit i.e., heals and recurs [3, 4]. Notwithstanding differences between CNCP conditions, what unites the conditions is that the pain lasts beyond 3-months [2]. Compared to acute pain, chronic non-cancer pain is more insidious due to its prolonged interference with patients' physical, biological, psychological, social and quality of life. This presents a set of unique challenges for primary and secondary healthcare providers.

In the United Arab Emirates (UAE) chronic musculoskeletal pain such as low-back pain and rheumatic pain has consistently been reported to be the leading cause of disability. However, more recent results driven from the Gulf Diabetes Care survey showed an increase in number of diabetic neuropathic pain cases. It is believed to be the most pressing chronic non-cancer pain disorder to lead to negative health consequences including premature mortality [5-7]. The prevalence of type 2 diabetes (T2DM) in the UAE is known to be ranked amongst the highest rates globally with an estimate of 19% of the population diagnosed with T2DM. The prevalence, which is expected to rise to 21.4% by 2030, has been linked to the rapid unhealthy lifestyle changes that has occurred in the region over the past few decades [8]. The UAE has witnessed significant economic growth that has resulted in urbanization and a technological-driven lifestyle, which has been accompanied by a reduction in physical activity and an excessive rise in caloric-dense dietary consumption [9, 10]. An ample volume of evidence now exists that points towards the bidirectional link of obesity to chronic pain including low back pain, headaches, fibromyalgia, and abdominal pain [11-14]. Furthermore, morbid obesity as a single factor has been found to double the risk of the development of musculoskeletal pain, increase joint complications, reduce joint recovery and interferes with sound clinical management [15].

Recently the Ministry of Health and Prevention (MoHaP), Dubai Health Authority (DHA), and Department of Health-Abu Dhabi (DoH) had published the strategic plan for 2017–2021, which sets out and emphasizes the aim of delivering high quality healthcare services that includes pain management services [16, 17]. In the UAE, the majority of chronic non-cancer pain patients are referred from hospital to community-based pain clinics, where long-term management continues. However, little is known about the nature, modalities and outcomes of the provided care. The UAEs' chronic pain population are not insulated from the risk of opioid addiction. However, the exact magnitude of the adverse outcomes of the currently followed approaches of CNCP management is not well documented. Though, a two-year observational study from a psychiatric hospital in UAE estimated the prevalence of substance misuse to be equal to 9.5% [18].

This, as a consequence presents a cautionary demand for disease-specific healthcare services, and interventions.

2. Assessment and Diagnostic Challenges

Chronic pain is prone to miss-management mainly due to its ascertained complexity in its assessment, diagnosis treatment and management. Therefore, understanding some of the complexities and challenges are essential to inform the delivery of high-quality care.

Prolong experience of pain can lead to changes in the central nervous system that could result in further bolster or exaggeration of pain, or might lead to experiencing of pain from normally non-pain inducing stimuli [19]. This phenomenon is termed neuroplasticity and the mechanism ultimately leads to further cyclical intense experience of pain. An example of this phenomenon is arthritis; both rheumatoid arthritis and osteoarthritis follow this mechanism. On arthritis, central sensitization happens over time and in response to on-going joint pathophysiology, which results in raised pain and tenderness that also occurs away from the area of joint damage [19]. Another example, is idiopathic pain such as idiopathic back pain, fibromyalgia or neck-pain, which are all condition with unknown etiology, but are characterized with signs of underlying mechanisms of central sensitization [20]. Details of how pain of central sensitization occurs and why a relative proportion of patients develop chronic cyclical pain with unknown pathology are not well understood.

In addition to its physical health impact, chronic pain is associated with number of serious and significant psychological health issues such as anxiety and depression. Psychological distress has previously been found to be independently and bidirectionally associated with the intensity of chronic pain in the sense that while depression and anxiety might attenuate pain, equally, the existence of prolonged pain eventually fosters the development of anxiety and depression [21]. Moreover, depression and anxiety influence and exacerbate chronic pain-related outcomes such as disability.

One of the most frequently reported challenges in managing these cases, is to objectively measure and assess the severity and intensity of the experienced pain. Therefore, physicians rely on subjective self-reporting assessment tools to capture the varied idiosyncratic nature of pain. Additionally, prescribing the most suitable pharmacological intervention to chronic pain conditions with unknown mechanism or underlying neuroplasticity can be challenging.

Self-report measurements are typically divided into two types: single-dimension and multidimensional assessment tools [20]. Single-dimension assessment involves asking patients to rate their pain on scales (numeric or visual), whereas the multidimensional tool evaluates behavioral and emotional aspects of pain. Although these scales have been shown to be valid, the extent of information they can provide with regards to pain intensity ratings is limited. The pathophysiological nature of pain and its outcomes are less well captured by the self-reported tool. Therefore, the use of such tools as a guide to assess therapeutic interventions and their outcomes does not always provide reliable results and assessments [22].

There is a number of factors that contribute to the experience of pain, and it has been suggested that the measurement of pain should go beyond self-reporting scales and tools. Several physiological variables have been suggested as additional objective biomarkers of pain, such as skin conductance and heart rate [23, 24]. However, these markers are not necessarily directly linked to pain and may not be a viable option as a surrogate measure of pain. Newer approaches focus on neuroimaging methods such as functional MRI, which generate high resolution imaging of the brain region that are suspected to be involved in pain related activities including pain severity. However, these new approaches might not necessary be able to quantitatively indicate the likely progression of patients' pain from acute phase to chronic, and more research is still needed in this area [23].

3. Medical Management Challenges

In addition to diagnosis and assessments, there are also several challenges involving the therapeutic management of CNCP. Current management options generally include: pharmacological interventional and surgical methods. Multiple approaches are often adopted for optimal management depending on the nature of the pain and the treatment goals. However, the main management approach used are limited to analgesics such as paracetamol, Non-steroidal anti-inflammatory drugs (NSAIDs), antidepressants and anticonvulsants. Interventional studies undertaken over the years have indicated that the adequate management of moderate to severe CNCP has been proven to be difficult with peripherally acting analgesics such as NSAIDs and paracetamol [25-27]. Therefore, NSAIDs and paracetamol should be prescribed and administered with caution, particularly for special patient populations such as elderlies, asthmatic patients, and patients with renal and gastrointestinal comorbidities.

There is a strong scientific evidence that supports the utilization of antidepressants in the management of certain CNCP conditions such as neuropathic pain, including diabetic neuropathy and postherpetic neuralgia. However, the extent of antidepressants and anticonvulsants' analgesic effectiveness in the management of other types of musculoskeletal conditions such as low back pain is inconclusive and results from clinical trials have been conflicting [28]. Equally, it has been indicated that a proportion of CNCP patients do not continue to respond to traditional first line analgesics (NSAIDs, paracetamol, aspirin, antidepressants, antiepileptics) and in such instances, opioids, particularly stronger opioids have increasingly been prescribed to combat pain intensity.

Concurrently, the long-term use of psychoactive medications such as sedative-hypnotics and antidepressants is not generally advised due to the lack of robust evidence supporting their long-term efficacy. Likewise, these agents carry a significant safety risk, which is also aggravated by the use of opioids [28, 29].

Prolonged use of opioids in non-cancer pain does not come without considerable controversy, and a long-standing contention around long-term safety and effectiveness of opioids has been at the heart of the debate [30].

Similarly, empirical evidence has found that long-term use of opioid might result in negative physical and psychological effects, which include impaired immune and endocrine functions, fractures and falls, disorders of nocturnal respiratory control, worsening of pain (opioid- induced hyperalgesia), aberrant drug-related behaviors, overdose and deaths [31, 32]. This is viewed as source of considerable concerns and calls for further research and investigation.

In despite of the concern, opioid prescribing, opioid misuse and opioid addiction has sharply and disturbingly increased over the last decade, with opioid addiction/misuse has been described as an avoidable global epidemic [33]. Globally, recent estimates show that 16 million individuals have had or currently suffer from opioid use disorder, which is aggravated by over-prescribing for chronic pain management. When put into perspective, the number of deaths related to opioid overdose annually is more than deaths caused by the entirety of the Vietnam War, the Korean War, or any armed conflict combined since the end of World War II [34]. Although overdose deaths are the direct consequence of the increased misuse of opioids, other ominous consequences include the risk of transitioning to heroine, cardiac risks, neurological complications, hypoxic-ischemic brain injury, neonatal deaths in pregnancy and jeopardy of the individuals' social and welfare [35].

Nevertheless, evidence shows that close patient monitoring and intensive educational and awareness campaigns targeting patients and prescribers could limit and reduce malpractices and opioids misuse and abuse. Apart from oral medicines, distinctively, invasive pharmaceutical modalities such as trigger point injections, botulinum toxin injections and nerve block injections, also carry a limited long-term supportive use in CNCP [36]. Surgical interventions are not routinely practiced but are recommended in herniated disc in sciatica or back pain related spinal deformity [37].

4. Behavioural and Lifestyle Challenges

Chronic non-cancer pain is evidently complicated by a number of unhealthy lifestyle and behaviors and practices such as lack or limited physical activity, smoking, unhealthy diet, overweight, sleeping disorders and stress [38]. Despite the mounting evidence that supports recommending and advocating healthy lifestyle behavioural interventions as part of the clinical management of CNCP, pain specialist primary focus on pharmacological interventions. In the UAE, there is an alarming rates of life style-related diseases due to sedentary lifestyle factors such as obesity and lack of physical activity. It is expected that the prevalence of life style-diseases to get even higher in the future [39].

This will inadvertently impact the chronic pain population. However, what makes this a further challenge in practice is

the biopsychosocial elements that can interact with pain to further modulate patients reported symptoms and subsequent disability. Viewing pain purely as a clinical physiological phenomenon is far from the truth, and the most promising work on pain is a sound understanding of the social, environmental, psychological and lifestyle causes and effects along with the concurrent physiological nature.

As pain becomes more chronic affective emotional disorders become increasingly dominant such as depression, anxiety, catastrophizing behaviors, poor eating habits, social withdrawals, employment difficulties etc., and these elements continue to maintain the dysfunctionality of chronic pain and its suffering [40]. Thus, the challenge in practice is to bridge the gap between physical health, physiological health, mental health and social health at the onset and entry point to healthcare for these patients. Primary healthcare is yet not established as an entry point in the UAE but also for many Gulf states. Primary healthcare currently plays a small role in the region to propel health promotions including biopsychosocial health promotions. For instance, in Abu Dhabi, primary healthcare centers have expedited the screening and therapeutic management of non-communicable diseases and its risk factors, however, further interventional roles in health promotion, an increased awareness to biopsychosocial risk factors to diseases including chronic pain, and an increased awareness of prevention strategies set out in recent policies are needed. Optimistically progress is being made in this direction.

5. Conclusions

As the prevalence of chronic non-cancer pain is estimated to continue to increase, what we can gather from this review is that there remains a nascent gap in the optimal diagnosis, medical management and holistic health care of these patients. Typically, and increasingly, chronic non-cancer pain represents a complex clinical case in practice due to the physiological, psychological, social and lifestyle impacts. Thus, a more integrated interdisciplinary response across specializations with careful considerations to the biopsychosocial factors will likely to be useful in routine primary care.

Abbreviations

IASP	International Association for the Study of Pain
CNCP	Chronic non-cancer Pain
UAE	United Arab Emirates
T2DM	Type-2-diabetes Mellitus
DHA	Dubai Health Authority
MoHaP	Ministry of Health and Prevention
NSAID	Non-steroidal Anti-inflammatory Drugs

Author Contributions

Muna Adan: Conceptualization, Methodology, Writing – original draft

Hodan Hersi: Validation, Resources, Writing – review & editing

Ayan Hag: Project administration

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] International Association for the Study of Pain. Unrelieved pain is a major global healthcare problem. https://doi.org/10.1155/2011/513423

[2] William AC, Craig KD. Updating the definition of pain. PAIN. 2016, 157, 2420-3. https://doi.org/10.1097/j.pain.0000000000000613

[3] McArdle A, Flatley B, Pennington SR, FitzGerald O. Early biomarkers of joint damage in rheumatoid and psoriatic arthritis. Arthritis Research & Therapy. 2015, 17, 1-12. https://doi.org/10.1186/s13075-015-0652-z

[4] May A, Schulte LH. Chronic migraine: risk factors mechanisms and treatment. Nature Review Neurology. 2016, 12, 455-464. https://doi.org/10.1038/nrneurol.2016.93

[5] Bener A, El-Rufaie OF, Siyam A, Abuzeid MSO, Toth F, Lovasz G. Epidemiology of low back pain in the United Arab Emirates. International Journal of Rheumatology. 2004, 7, 189-195. https://doi.org/10.1016/j.berh.2010.10.002

[6] Namas R, Joshi A, Ali Z, Al Saleh J, Abuzakouk M. Demographic and clinical patterns of rheumatoid arthritis in an Emirati cohort from United Arab Emirates. International Journal of Rheumatology. 2019, 2019, 3057578. https://doi.org/10.1155/2019/3057578

[7] Omar MS, Khudada K, Safarini S, Mehanna S, Nafach J. DiabCare survey of diabetes management and complications in the Gulf countries. Indian Journal of Endocrinology and Metabolism. 2016, 20, 219-27. https://doi.org/10.4103/2230-8210.176347

[8] Sulaiman N, Mahmoud I, Hussein A, Elbadawi S, Abusnana S, Zimmet P, et al. Diabetes risk score in the United Arab Emirates: a screening tool for the early detection of type 2 diabetes mellitus. BMJ Open Diabetes Research Care. 2018, 6, e000489. https://doi.org/10.1136/bmjdrc-2017-000489

[9] Henry CJ, Lightowler HJ, and Al-Hourani HM. Physical activity and levels of inactivity in adolescent females ages 11-16 years in the United Arab Emirates. American Journal of Human Biology. 2004, 16, 346-353. https://doi.org/10.1002/ajhb.20022

[10] Ng SW, Zaghloul S, Ali H et al. Nutrition transition in the United Arab Emirates. European Journal of Clinical Nutrition. 2011, 65, 1328-1337. https://doi.org/10.1038/ejcn.2011.135

[11] Clark DO, Mungai SM. Distribution and association of chronic disease and mobility difficulty across four body mass index categories of African-American women. American Journal of Epidemiology. 1997, 145, 865-875. https://doi.org/10.1093/oxfordjournals.aje.a009046

[12] Scher AI, Stewart WF, Ricci JA, Lipton RB. Factors associated with the onset and remission of chronic daily headache in a population-based study. Pain. 2003, 106, 81-89. https://doi.org/10.1016/s0304-3959(03)00293-8

[13] Yunus MB, Arslan S, Aldag JC. Relationship between body mass index and fibromyalgia features. Scandinavian Journal of Rheumatology. 2002, 31, 27-31. https://doi.org/10.1080/030097402317255336

[14] Delgado-Aros S, Locke GR, 3rd, Camilleri M, Talley NJ, Fett S, Zinsmeister AR, Melton LJ., 3rd Obesity is associated with increased risk of gastrointestinal symptoms: a population-based study. American Journal of Gastroenterology. 2004, 99, 1801-1806. https://doi.org/10.1111/j.1572-0241.2004.30887.x

[15] King LK, March L, Anandacoomarasamy A. Obesity & osteoarthritis. Indian Journal of Medical Research. 2013, 138, 185-93. PMCID: PMC3788203.

[16] Health Authority of Abu Dhabi (HAAD). HAAD strategic plan (2015-2020). Abu Dhabi; 2015.

[17] Dubai Health Authority (DHA). Dubai health strategy 2016 - 2021. Dubai - UAE; 2016.

[18] Al-Marri TK and Oei TS. Alcohol and substance use in the Arabian Gulf region: a review. International Journal of Psychology 2009, 44(3), 222-233. https://doi.org/10.1080/00207590801888752

[19] Kuner R, Flor H. Structural plasticity, connectivity and reorganization in chronic pain. Nature Review Neuroscience. 2017, 18, 20-30. https://doi.org/10.1038/nrn.2016.162

[20] Aggarwal VR, McBeth J, Zakrzewska JM, Lunt M, Macfarlane GJ. The epidemiology of chronic syndromes that are frequently unexplained: do they have common associated factors? International Journal of Epidemiology. 2006, 35, 468-476. https://doi.org/10.1093/ije/dyi265

[21] Narasimhan M, Campbell N. A tale of two comorbidities: Understanding the neurobiology of depression and pain. Indian Journal of Psychiatry. 2010, 52, 127- 130. https://doi.org/10.4103/0019-5545.64586

[22] Breivik H, Borchgrevink PC, Allen SM, Rosseland LA, Romundstad L, Breivik Hals EK, et al. Assessment of pain. British Journal of Anesthesia. 2008, 10, 17-24. https://doi.org/10.1093/bja/aen103

[23] Storm H. Skin conductance and the stress response from heel stick in preterm infants. Archives of Disease in Childhood - Fetal and Neonatal Edition. 2000; 83, F143-F147. https://doi.org/10.1136/fn.83.2.f143

[24] Tousignant-Laflamme Y, Rainville P, Marchand S. Establishing a link between heart rate and pain in healthy subjects: a gender effect. The Journal of Pain. 2005, 6, 341- 347. https://doi.org/10.1016/j.jpain.2005.01.351

[25] Snodgrass SJ, Heneghan NR, Tsao H, Stanwell PT, Rivett DA, Van Vliet PM. Recognizing neuroplasticity in musculoskeletal rehabilitation: a basis for greater collaboration between musculoskeletal and neurological physiotherapists. Manual Therapy. 2014, 19(6), 614-617. https://doi.org/10.1016/j.math.2014.01.006

[26] Ong CKS, Lirk P, Tan CH, Seymour RA. An evidence-based update on nonsteroidal anti-inflammatory drugs. Clinical Medicine & Research. 2007, 5, 19-34. https://doi.org/10.3121/cmr.2007.698

[27] Harirforoosh S, Asghar W, Jamali F. Adverse effects of nonsteroidal anti-inflammatory drugs: an update of gastrointestinal, cardiovascular and renal complications. Journal of Pharmacy & Pharmaceutical Sciences. 2014, 16(5), 821-847. https://doi.org/10.18433/j3vw2f

[28] Staiger TO, Gaster B, Sullivan MD, A Deyo R. Systematic review of antidepressants in the treatment of chronic low back pain. Spine. 2003, 28, 2540-2545. https://doi.org/10.1097/01.BRS.0000092372.73527.BA

[29] Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain—United States. The Journal of the American Medical Association. 2016, 315, 1624-1645. https://doi.org/10.1001/jama.2016.1464

[30] Franklin GM. Opioids for chronic noncancer pain: a position paper of the American Academy of Neurology. Neurology. 2014; 83, 1277-84. https://doi.org/10.1212/WNL.0000000000000839

[31] Chou R, et al. The effectiveness and risks of long-term opioid therapy for chronic pain: A systematic review for a National Institutes of Health Pathways to Prevention Workshop. Annual Internal Medicine. 2015, 162, 276-286. https://doi.org/10.7326/M14-2559

[32] Baldini A, Von Korff M, Lin EH. A review of potential adverse effects of long-term opioid therapy: a practitioner's guide. Primary Care Companion for CNS Disorders. 2012, 14, PCC.11m01326. https://doi.org/10.4088/PCC.11m01326

[33] Humphreys K. Avoiding globalization of the prescription opioid epidemic. Lancet. 2017, 390, 437-439. https://doi.org/10.1016/S0140-6736(17)31918-9

[34] Ahmed, S., Sarfraz, Z., & Sarfraz, A. (2022). A changing epidemic and the rise of opioid-stimulant co-use. Frontiers in psychiatry, 13, 918197. https://doi.org/10.3389/fpsyt.2022.918197

[35] Kiluk, B. D., Kleykamp, B. A., Comer, S. D., Griffiths, R. R., Huhn, A. S., Johnson, M. W.,... & Strain, E. C. (2023). Clinical trial design challenges and opportunities for emerging treatments for opioid use disorder: a review. JAMA psychiatry, 80(1). https://doi.org/10.1001/jamapsychiatry.2022.4020

[36] Lang AM. Focused review: Botulinum toxin type A therapy in chronic pain disorders. Archives of Physical Medicine and Rehabilitation. 2003, 84, S69-S73. https://doi.org/10.1053/apmr.2003.50121

[37] Jacobs W, van Tulder M, Arts M, et al. Surgery versus conservative management of sciatica due to a lumbar herniated disc: a systematic review. European Spine Journal. 2011, 20, 513-522. https://doi.org/10.1007/s00586-010-1603-7

[38] Dean E, Söderlund A. What is the role of lifestyle behavior change associated with non-communicable disease risk in managing musculoskeletal health conditions with special reference to chronic pain? BMC Musculoskeletal Disorder. 2015, 16, 87. https://doi.org/10.1186/s12891-015-0545-y

[39] Mamdouh, H., Hussain, H. Y., Ibrahim, G. M., Alawadi, F., Hassanein, M., Al Zarooni, A.,... & Alnakhi, W. K. (2023). Prevalence and associated risk factors of overweight and obesity among adult population in Dubai: A population-based cross-sectional survey in Dubai, the United Arab Emirates. BMJ open, 13(1), e062053. https://doi.org/10.1136/bmjopen-2022-062053

[40] Meints SM and Edwards RR. Evaluating psychosocial contributions to chronic pain outcomes. Progress in Neuro-Psychopharmacology and Biological Psychiatry. 2018, 87, 168-182. https://doi.org/10.1016/j.pnpbp.2018.01.017