Multidisciplinary approach to chronic pain management

PP Chen

Suffering from pain remains a major health, social, and economic problem. The management of acute post-operative pain and cancer pain has improved over the past few years but other chronic pain conditions remain inadequately treated. Chronic pain is a complex condition involving pathophysiological, psychological, emotional, and environmental factors. A multidisciplinary approach to pain management has been shown to improve the quality of patient care, reduce the use of health care services, and overall health care cost. This paper reviews the concept of multidisciplinary pain management and discusses its benefit in the management of chronic pain.

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Introduction

Suffering from pain remains a major health, social, and economic dilemma as we approach the end of the 21st century. It has been estimated that approximately 30% of the population of developed countries suffer from some form of chronic pain condition.[1] Over the past five years, the management of post-operative pain in Hong Kong has advanced considerably. In most public hospitals, acute post-operative pain is managed effectively and efficiently by dedicated acute pain teams. The management of cancer pain has also progressed, with improved awareness of the condition by both health care professionals and the general public. Oncology and palliative care specialists have implemented the WHO recommendations on the control of cancer pain. Effective relief from cancer pain can be obtained in more than 85% of patients using the WHO analgesic guidelines.[2]

On the other hand, chronic non-malignant pain (lasting from months to years) has been given little attention and remains poorly managed in Hong Kong, although epidemiological studies overseas have shown that recurrent and chronic headache, abdominal pain, chest pain, and pain in the joints of arms and legs are common in the general population[3] (Table 1). The lack of progress has largely been due to inadequate understanding of the mechanisms involved and the appropriate treatment. In the past decade, progressive research in this field has unravelled many of the mysteries of chronic pain and this new specialty offers respite for patients suffering from chronic pain. This paper will focus on the management of chronic non-malignant pain although poorly-controlled cancer pain is also referred to in some areas.

Multidisciplinary pain management

In many countries including the United States, United Kingdom, and Australia, many patients with chronic pain are seen in specialised pain centres or clinics. These pain facilities are well-equipped and run by full-time pain specialists and support staff. By definition, pain centres are hospital-based, have in-patient and out-patient facilities, whereas pain clinics are facilities in which patients are managed in out-patient hospital clinics or in a non-hospital setting such as the physician's office.[4] Facilities that include health care professionals and basic scientists, and undertake research and teaching activities as well as patient-related care are referred to as multidisciplinary pain centres (MPCs).

In MPCs, the provision of care is co-ordinated and treatment modalities are integrated.[5] The integration of multiple modalities including behavioural modification therapy for the treatment of chronic pain has led to substantial and significant improvement in patients suffering from chronic pain.[6] Commonly, the multidisciplinary team consists of members from different disciplines such as anaesthesiology,

Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, Hong Kong
PP Chen, FANZCA, FHKAM (Anaesthesiology)

Correspondence to: Dr PP Chen

orthopaedics, rheumatology, oncology, palliative care medicine, neurology, neurosurgery, clinical psychology, psychiatry, rehabilitation medicine, physical therapy, occupational therapy, and medical social work.

The management of chronic pain in Hong Kong

Most cases of chronic pain in Hong Kong are managed by the patient's primary physician or by a medical specialist. Cases of difficult pain control are often referred to anaesthesiologists who have an interest in pain management, for further assessment and treatment—often neural blockade is used. A recent survey carried out by the author that reviewed the activities of 22 Hospital Authority hospitals that have either an anaesthetic service, general medicine, neurology, neurosurgery, orthopaedic, or rehabilitation medicine departments, found eight hospitals with a regular chronic pain service while four others treated chronic pain patients on an ad hoc basis. In seven of these hospitals, multidisciplinary pain management teams are being established to improve the quality of patient care. Most of these teams are supervised by anaesthesiologists who are experts in the physiology and pharmacology of pain, and are expert in performing neural blockade. During pain clinic sessions, input from two or more specialities is common. These specialties are anaesthesiology, physiotherapy, oncology, radiotherapy, orthopaedics, neurosurgery, general medicine, and surgery. These combined-consultation sessions among the different specialties are extremely important and effective in the management of refractory pain.

At present, there is no full-time specialist chronic pain unit in Hong Kong. In most Hong Kong hospitals, the attending pain specialists do not have a major commitment to the chronic pain service as most of their time is spent on their primary speciality. These specialists often have limited time for teaching or research in pain and pain management. In the above survey, just one hospital allotted one to three hours a week for teaching, while another allowed the same time each week for research activities. The rest of the hospitals surveyed either had less teaching and research time, or none at all.

Clearly, not every patient with chronic pain needs a complex, multidisciplinary evaluation and treatment. However, if patients have failed conventional therapy and have an uncertain diagnosis, despite multiple medical evaluation and treatment, they should be referred to and managed at a MPC. This approach to the management of chronic pain, whether due to cancer or non-malignant causes, has many advantages including improving the quality of patient care and patient satisfaction, as well as reducing health care costs.

The quality of care given is important

It is now clear that acute pain, cancer pain, and pain from chronic non-malignant causes require different treatment. Acute nociceptive pain often responds favourably to pharmacological therapy. In cancer pain, although nociception plays a significant role, psychological factors also need to be addressed.[7] Pain due to cancer can often be managed satisfactorily using the WHO analgesic guidelines. Cancer patients with severe pain and pain not responding to conventional pharmacological therapy may benefit from neural blockade and trials of different routes of administration of medications, including the epidural and intrathecal routes. Psychosocial counselling and physical and occupational therapy can offer significant relief from the pain and the stress related both to the cancer and to the pain. A MPC is the most appropriate way to provide such multimodal care.[5]

Similarly, chronic non-malignant pain that does not respond to conventional treatment requires an alternative management plan and treatment. A nociceptive stimulus may lead to the perception of pain, but active emotional states influence how the aversive stimulus is perceived.[8] The purpose of therapy is then to reduce irritating factors as much as possible and to increase the ability to cope. A pain management programme based on psychosocial education and physical rehabilitation can be offered by a multidisciplinary pain team. In these programmes, cognitive and behavioural strategies are used to assist the patient in coping with the pain, disability, and environment. Patient educa-

Table 1. Common non-malignant chronic pain conditions

- Myofascial pain syndromes
- Low back pain
- Ischaemic leg pain
- Chronic regional pain syndrome Type I (reflex sympathetic dystrophy)
- Chronic regional pain syndrome Type II (causalgia)
- Phantom limb pain
- Post-herpetic neuralgia
- Trigeminal neuralgia
- Head and neck pain

tion regarding the cause of the pain, physical exercises, and assessment of matters relating to employment and other social issues are integral components of such programmes.

The multidisciplinary approach allows accurate diagnosis, a wider array of treatment options, and prompt recognition of treatment failure. Appropriate care can also help patients early in their chronic illness. Referral to more than one specialist and the duplication of investigations and treatment can be avoided, if the pain management is co-ordinated by a primary pain specialist at a pain clinic or centre. Regular joint consultation sessions and pain conferences among pain specialists from various disciplines will also improve communication and efficiency, thereby providing a better quality of patient care.

Inappropriate care may lead to increased suffering from chronic pain. Pither and Nicholas found that in 75% of a cohort of 73 patients, iatrogenic factors appeared to contribute to the overall level of distress and dysfunction.[9] The factors that tended to aggravate the patient's condition included over-investigation, prescriptions of anxiolytics and sedatives, over-treatment, provision of overly-simplistic explanations, recommendation of rest, suggestion that the pain may be mild, inappropriate psychiatric referrals, and failure to confront negative findings.

Pessimism regarding the future tends to increase suffering and disability.[10,11] Fear of further injury and suffering may lead to avoidance of physical activity and occurs independently of the current intensity of pain.[10] Such avoidance behaviour is one of the mechanisms that sustain chronic pain disability. The management of chronic pain should include a correct and clear explanation of the condition, as well as appropriate investigations and a treatment plan that includes consideration of psychosocial factors that may be affected.

The economic cost of chronic pain

It is no longer adequate to approach chronic pain patients from the viewpoint of providing symptom relief alone. In a multidisciplinary pain approach, chronic pain management not only encompasses physical and pharmacological treatment but should also include emotional and psychological support. The goal of pain management should not be pain relief alone, but should include the restoration of functional ability appropriate to the patient's age and social situation.

Among chronic pain complaints, back pain is a major problem that causes absence from work, disability costs, health care utilisation, and loss of economic productivity.[8] In the United Kingdom, back pain has been estimated to cost £2 billion (US$3.3 billion) in lost output, while 1 in 250 to 5000 residents in an average health district is severely disabled by this condition.[12] A similar economic burden has been observed in the United States.[8] Chronic pain rehabilitation programmes offered by many MPCs have reduced the use of medication, reduced the use of the health care system, improved the functional ability of patients, and increased the number of patients returning to work.[13-16]

Deardorff et al found that 48% of patients who participated in a multidisciplinary chronic pain management programme had returned to work, while another 28% were in vocational training 10 months after completion of the programme.[13] None of the patients who did not participate in the programme were back at work or in vocational training. A recent meta-analysis of the effectiveness of the multidisciplinary team approach to the treatment of chronic pain also shows that there is a significant increase in the proportion of patients who return to work following treatment and that the benefit of treatment is not temporary.[17] The authors report that the treatment programme may more than double the number of patients who return to work. These outcomes will decrease patient reliance on social services, reduce the number of patients on sickness benefits, disability benefits, and workers' compensation, and improve the overall economic productivity of the population.

Flor et al in another meta-anaylsis of 65 studies involving 3089 patients evaluated the efficacy of multidisciplinary pain centres and found that there was a long term improvement in pain and mood, reduction in the use of health care and use of medication, as well as a higher return to work rate, compared with patients not treated at MPCs.[16] Using results from Flor et al and estimates from other studies, Turk calculated a saving of US$33.3 million and US$9.8 million on surgical and medical expenditures, respectively, for the 3089 patients, while disability payments were reduced by US$175.7 million if patients were treated at MPCs.[18]

The establishment of a multidisciplinary centre will require additional resources for the facility, staffing, equipment, and other expenses. This may appear to increase demand on the health care budget

initially, but in the long term, the overall health care cost is likely to decrease. As a large population of patients has chronic pain, which is often severe enough for the patient to require sick leave or sickness/disability benefits, there is a valid economic argument for the establishment of specialised pain management facilities.

Research and education are essential

A multidisciplinary pain centre facilitates research in pain and pain management. Research is an important component of continuous quality improvement. When patients with chronic pain syndrome are followed up at a pain centre, sufficient numbers will be available for meaningful clinical studies. Coordination of resources will allow research projects to progress smoothly and efficiently; projects that collaborate with different disciplines are more easily achieved. Full-time pain specialists need sufficient time off from clinical duties to carry out research aimed at improving the quality of pain management.

It is the responsibility of pain specialists to educate health care providers and the general public. Educating health care providers will improve the quality of care provided by non-pain specialists to patients with chronic pain. This will reduce the likelihood of multiple referrals for specialist consultation, and ultimately decrease health care use. Increasing public awareness of pain will diminish fear and anxiety among these patients and increase support from the community.

The future

Organised chronic pain management units are now well-accepted in most developed countries and there is some evidence that Hong Kong will follow this trend. Such units will provide high quality care to patients, optimise resources, and facilitate not only health cost containment but also overall economic cost savings in the long term.

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