

KFJ Ng 吳國夫  
SL Tsui 徐兆麟  
WS Chan 陳穎生

# Prevalence of chronic pain in Hong Kong adults

## Key Messages

1. Chronic pain is a highly prevalent problem in Hong Kong with significant social and economic impact on society.
2. The problem has been largely neglected and most pain sufferers are not satisfied with the treatment they receive.
3. Chronic pain sufferers frequently have multiple pain complaints and multiple health care providers.
4. Family physicians with a special interest and appropriate training in pain medicine can play an important role in better coordinating chronic pain management in the community.

## Introduction

According to reports from North America, Europe, and New Zealand, chronic pain is highly prevalent in their general populations. Although there are wide variations in the definition of chronic pain and in the survey methods used in these studies, one review found a median point prevalence of chronic pain of 15% in the adult Caucasian population.<sup>1</sup> Chronic pain is a significant health problem not only because of the suffering and disability in those affected, but also due to its economic impact. In the United States in 1998, chronic pain was estimated to cost \$40 billion.<sup>1</sup>

## Aims and objectives

This study aimed to: (1) measure the point prevalence of chronic pain in the Chinese population in Hong Kong; (2) identify the prevalence of patients with multiple pain complaints; (3) establish the socio-demographic characteristics of chronic pain sufferers; (4) clarify the disruption in social and work functions caused by chronic pain; and (5) identify sources of care.

## Methods

This study was conducted from June 1999 to December 1999. We undertook a cross-sectional telephone survey of a random sample of Cantonese-speaking adults. Telephone numbers were randomly selected from residential telephone directories of Hong Kong. If there was more than one Chinese speaking eligible adult in the household, the person whose birthday was closest to the interview date was selected. The calls continued until more than 1000 successful interviews were completed. Trained interviewers from the Social Science Research Centre of the University of Hong Kong used computer-assisted telephone interviewing for this purpose.

The Nuprin Pain Questionnaire<sup>2</sup> was selected and back translated into Chinese. The questionnaire focuses on three important aspects (pain, severity, and impact), and has been validated and successfully administered over the telephone. Respondents were asked if they had suffered pain (headache, back pain, musculoskeletal pain, toothache, stomach pain, and others) in the past 12 months and to describe its severity, duration, and other details. A respondent was considered a chronic pain sufferer if they reported persistent pain for 3 months or more.

## Results

The total number of calls attempted was 5615; 2205 were answered resulting in 1051 adults being successfully interviewed. Thus, the response rate was 1051/2205 (47.7%). The socio-demographic characteristics of the respondents were similar to the Hong Kong adult population.

### *Prevalence, type, and severity of chronic pain*

One hundred and thirteen respondents (10.8%; 95% confidence intervals [CI], 8.9-12.7%) had pain lasting 3 months or longer. The most common chronic pain was joint pain, followed by back pain and headache. Overall, the median pain score was 6 (on a scale of 10). Almost one third (31.9%) of chronic pain sufferers indicated a score of 7 or higher. Most reported two or more sites of pain. The type of pain reported varied with age. Young people reported more headache and back

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Department of Anaesthesiology, The University of Hong Kong, Queen Mary Hospital, Pokfulam Road, Hong Kong

KFJ Ng, SL Tsui

Department of Anaesthesiology, Tuen Mun Hospital, Tuen Mun, Hong Kong  
WS Chan

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Principal applicant and corresponding author:  
Dr Jacobus KF Ng  
Dept of Anaesthesiology, Room 424, Block K, Queen Mary Hospital, 102 Pokfulam Road, Hong Kong SAR, China  
Tel: (852) 2855 4527  
Fax: (852) 2855 1654  
E-mail: jkfn@hkucc.hku.hk

pain, while older persons more often reported joint pain.

### ***Disturbance of social and work functions***

Over one quarter (26.5%) of chronic pain sufferers were unemployed. Among those working, 38.3% reported a negative impact from pain on their work, and 19.8% had a median of 5 days of sick leave in the past 12 months. The majority of chronic pain sufferers (70.8%) indicated that the pain interfered with their daily lives, of which 33.6% said the pain moderately or severely affected their daily life.

### ***Therapies sought by sufferers***

Although most chronic pain patients (88.5%) tried some form of self-treatment, 63% found its effect was transient. The majority of sufferers (74.3%) sought some form of medical advice for their problem, and a substantial proportion (35.7%) sought help from multiple sources, such as traditional Chinese medicine (26.2%), oral drug therapy (75%), parenteral drugs (15.5%), massage and physiotherapy (21.4%), and acupuncture (4.8%). Only 35.7% considered the treatment definitely helpful.

### ***Demographics of sufferers and non-sufferers***

Two risk factors for chronic pain were identified by logistic regression, namely female gender (odds ratio [OR], 1.51; 95% CI, 1.00-2.27;  $P < 0.05$ ) and age  $> 60$  years (OR, 2.19; 95% CI, 1.33-3.60;  $P < 0.01$ ). The respondent's level of education and self-perceived level of stress were not significant risk factors. Female chronic pain sufferers were more likely to have multiple sites of pain, try self-treatment, and seek medical advice. Elderly chronic pain sufferers were more profoundly affected by their pain problem although they were less likely to have multiple pain sites. Despite the higher pain score, the elderly did not seek more medical advice, take more self-prescribed treatment, or perceive a poorer quality of life. Pain scores were highest in people with primary education (median pain score, 7.5; interquartile range [IQR], 5-9.5), compared with a median of 5 each, for those receiving secondary education (IQR, 4-7) and tertiary education (IQR, 3-6.5) [ $P < 0.001$ , Kruskal-Wallis ANOVA]. There was no difference in pain intensity between different occupational groups.

### **Discussion**

This study is the first population-based comprehensive chronic pain study conducted in a Chinese population. Chronic pain prevalence (pain lasting for over 3 months) was 10.8%, compared with western countries where it is reported to range from  $< 1\%$  to  $> 80\%$ .<sup>1</sup> Joint pain is the commonest pain in almost every chronic pain prevalence study.

These chronic pain sufferers frequently had multiple pain problems, including multiple types and locations of pain, with corresponding aetiological and management implications. As chronic pain involves complex psychological and behavioural mechanisms, a mechanistic approach is unlikely to prove useful in understanding chronic pain risk factor or its

treatment. The frequent occurrence of multiple pain problems suggests that patients may not be adequately managed in subspecialty clinics. A family physician with an interest and appropriate training in pain medicine or a multidisciplinary approach coordinated by a pain physician may be more effective. Women and the elderly are the most frequently and severely affected and should be the target groups for health service provisions. Women have more sites of pain and seek medical advice more often, whereas the elderly tend to have higher pain scores. The economic impact of chronic pain on our society is substantial. Based on the median number of 5 days of sick leave in the past 12 months and a working population of 3.4 million, some 360 000 working days are lost to pain each year. If transient pain is included then the number of working days lost per year is approximately one million, or about 0.2 days per person per year. Apart from the social and economic impact, the problem of chronic pain also represents a huge demand on health services. Similar to studies in western countries, almost 75% of chronic pain sufferers sought medical advice.<sup>1,2</sup>

Our study has several limitations. As the response rate was only 47.7%, non-respondent bias must be considered when interpreting these results. We did not measure the psychological well-being of the respondents in our study. While the study instrument had face and content validity, the Cantonese version was only prepared by back translation and was not tested formally for criterion or construct validity.

### **Conclusions**

Chronic pain is a significant health problem in the adult population of Hong Kong. The number of adults affected by chronic pain exceeds 560 000. Female gender and advanced age were identified as risk factors. The median pain score was 5 and there was significant impact of chronic pain on daily life and work. Pain sufferers did not seem to be satisfied with the medical treatment they were receiving.

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