Original Article

The Use of Complementary and Alternative Medicine in Chronic Pain Patients in Singapore: A Single-Centre Study

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Abstract

Introduction: The use of complementary and alternative medicine (CAM) in Singapore for a variety of conditions has been reported to be high. However in Asian chronic pain patients, there is no data on their use of CAM and its perceived benefits. Materials and Methods: A cross-sectional survey of 210 patients was carried out in Pain Management Centre. Patients were interviewed directly on their use of CAM. The outcomes were prevalence of CAM use, the types of CAM used, the perceived efficacy and factors influencing its use. Results: The prevalence of CAM users in chronic pain is 84%. The most common class of CAM is traditional Chinese medicine (68%) the subset of which, acupuncture, was most frequently utilised (49% of patients using CAM). In univariate analyses, ethnicity was significantly linked to CAM use but not gender, age, education level and income (P = 0.027). Specifically for neck pain, it was significant that patients were more likely to see a chiropractor, to use massage, to take take vitamins and ginseng to alleviate their symptoms. With upper limb pain, it was the use of Tui na, massage and seeing a TCM practitioner. For abdominal pain, it was the use of herbal medicines. The majority felt that CAM helped with their pain (72%) although less expressed satisfaction with CAM (64%). Reasons for using CAM included: having more control over their pain; fewer side effects; safety and lower costs compared to conventional medicine. Conclusion: The use of CAM in chronic pain patients is higher than the general population. Most felt that it improved their pain. As part of multimodal therapy, CAM may have a role in the management of chronic pain.

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Key words: Acupuncture, CAM, Chiropracter, Efficacy

Introduction

Chronic pain is a prevalent disease that is often difficult to manage. According to a World Health Organisation survey, the worldwide prevalence of chronic pain is in the range of 20% to 30%.[1]

Chronic pain disease has an impact not only on the individuals' general health and psychological health, but also on society as well, in terms of higher health care costs and loss of working hours from absenteeism.[2,3] Studies show that patients with chronic pain use health care services up to 5 times more than patients without pain.[4]

Modalities of treatment include pharmacotherapy and interventional procedures. A fair number of patients are known to use complementary or alternative medicine (CAM). CAM can be defined as forms of treatment that are used in addition to (complementary) or instead of (alternative) standard treatments. This group of disciplines exists largely outside institutions where conventional health care is taught and provided.[5]

A survey in 2005 showed that CAM use in Singapore was high. Seventy-six percent of those studied used CAM over a 12-month period for a variety of conditions.[6] A study in a Malaysian public hospital showed the utilisation rate of CAM was 63.9% for different medical illnesses.[7]

The aim of this study is to evaluate the use of CAM specifically in chronic pain patients as no previous data on an Asian population was available. We specifically looked at the prevalence of CAM use, the types of CAM used, its perceived efficacy and the factors influencing its use.

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Materials and Methods

After the hospital Institutional Review Board approval was obtained, a survey was carried out among existing patients at the Pain Management Centre. Informed and written consent was obtained prior to patients completing the questionnaire. Patients were included in this study if they were 18 years and older, had no cognitive impairment and experienced pain for at least 6 months.

Two hundred and ten consecutive patients seeking treatment at the centre were interviewed to complete the questionnaire survey in English. An interview format was used to help non English speaking patients to participate in the study as well as to clarify any questions that they were not certain of. Participants were asked to provide information on their age, ethnicity, religion, education level, income level, types of CAM used, reasons for using CAM, the amount they spent on CAM and their satisfaction with using CAM. Patients were considered as having used CAM for their pain regardless of the duration of CAM use or their current usage.

Analysis for descriptive data was carried out using SPSS for Windows version 17.0 and *P* value <0.05 was considered as significant. Chi square test was used to test the association of CAM use with demographic characteristics such as age, gender, ethnicity and socio-economic characteristics such as education level and monthly income.

Results

Patient characteristics of the 210 patients who completed the survey are shown in Table 1. The main areas of pain are shown in Figure 1. Most patients (60%) had pain in one area whilst 6% had pain in four or more areas (Fig. 2).

The mean pain score of participants at the centre was 5.2 ± 2.5. The average duration of pain was 4.8 ± 4.2 years. Of the 210 patients interviewed, 176 patients (84%) reported using CAM at some point in their lives. Eighty-eight patients (50%) used CAM specifically for pain, with 41 patients (23%) still using CAM at the time of our survey.

Fifty-three patients (approximately 30%) were using CAM for reasons other than pain. Of these patients, 35 (20%) used CAM to maintain health whilst 18 (10%) used it treat an illness.

Thirty-five patients said they used CAM for both pain and non pain issues.

The broad classes of CAM used by patients are shown in Figure 3. The commonest class of CAM was traditional Chinese medicine (TCM) 68%. This was followed by 'Others' (31%), which included yoga, chiropractic treatment, massage, vitamins and those not listed in the survey. The popularity of specific forms of CAM is shown in Figure

Table 1. Patient Characteristics

Demographics data	Number (%)
Age	
18 to 40 years	33 (15.7)
41 to 60 years	75 (35.7)
>60 years	102 (48.6)
Gender	
Male	103 (49)
Female	107 (51)
Ethnicity	
Chinese	180 (85.7)
Malay	6 (2.9)
Indians	19 (9)
Others	5 (2.4)
Marital status	
Single	37 (17.6)
Married	156 (74.3)
Widowed	11 (5.2)
Divorced	4 (2.9)
Religion	
Buddhist	94 (44.8)
Christian	55 (26.2)
Hindu	13 (6.2)
Islam	10 (4.8)
Free thinker	38 (18.1)
Education level	
No formal education	30 (14.3)
Primary	38 (18.1)
Secondary	58 (27.6)
Tertiary	84 (40)
Household income	
<4000 per month	141 (67.1)
4000 to 7999 per month	40 (19)
>8000 per month	29 (13.8)

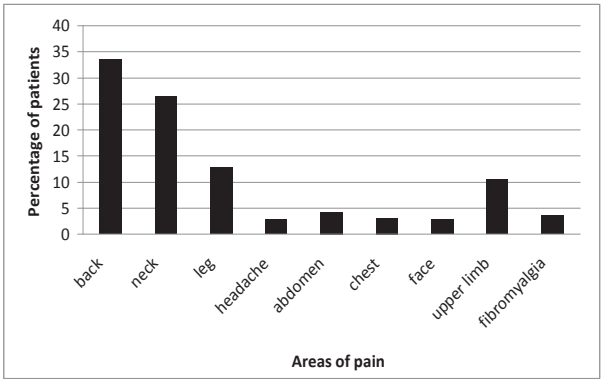

Fig. 1. Reported sites of pain.

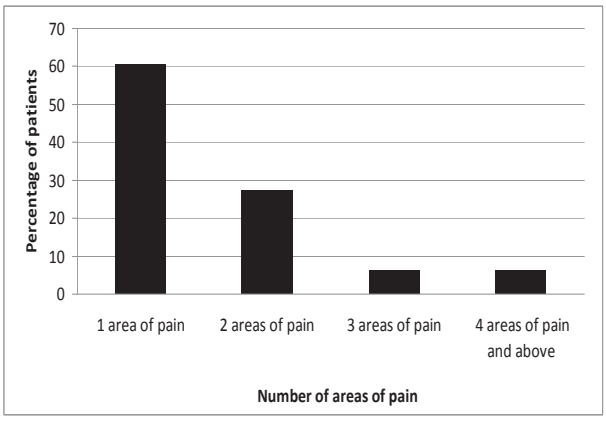

Fig. 2. Number of areas of pain.

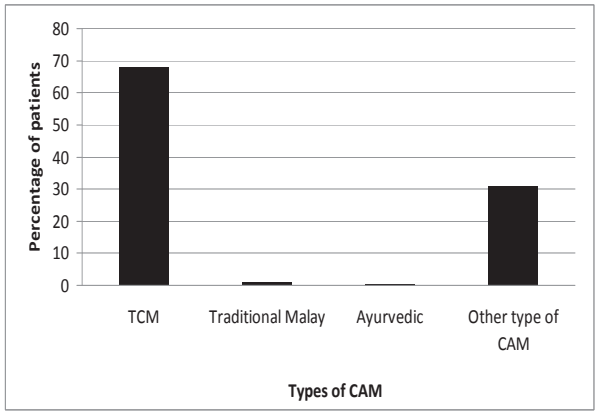

Fig. 3. Classes of CAM used.

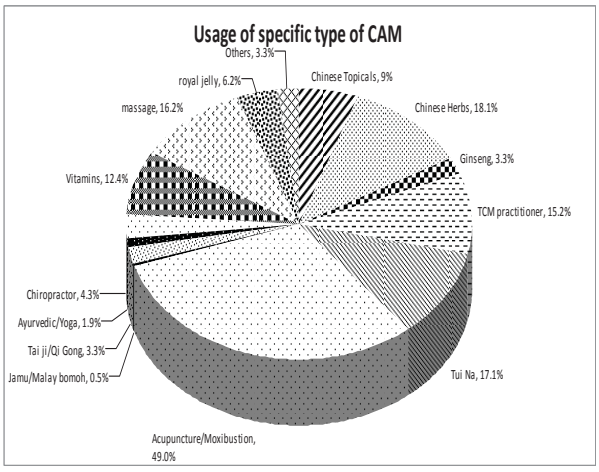

Fig. 4. Specific forms of CAM.

4. Acupuncture was the most utilised (49%), followed by Tui Na (17%) and massage (16%). Many patients were on more than one form of CAM.

It was significant that ethnicity was positively correlated to CAM use $P = 0.027$. However, other factors such as gender, age, education and income level were not.

There was a significant association between patients with neck pain using TCM ($P = 0.011$), ginseng ($P = 0.043$), vitamins ($P = 0.004$), visiting a chiropractor ($P = 0.026$) and employing massage ($P = 0.022$). With upper limb pain, patients were more inclined to see a TCM practitioner ($P = 0.022$), to use Tui Na ($P = 0.016$) and massage ($P = 0.003$) to relieve their pain. Herbal medication was significantly used more often in abdominal pain ($P = 0.034$).

Seeking a chiropractor was positively correlated with the severity of pain ($P = 0.027$)

Seventy-two percent felt that CAM helped with their pain. Thirty-five percent chose to use CAM because they felt it gave them more control over their pain. Twenty-six percent used CAM because conventional medicine did not work. Thirty-eight percent felt that that it was safer and had fewer side effects, whilst 24% thought it was cheaper.

About a quarter of patients had discussed the use of CAM with their doctors. Two thirds had spent less that $200 on CAM, whilst 20% had spent more than $500.

In terms of satisfaction with prescription therapy, 85% were satisfied to very satisfied whilst 64% felt the same about CAM. There was no significant relationship between current health status and satisfaction with CAM.

Discussion

This study shows that the use of CAM in chronic pain patients is extremely prevalent, with 84% having used CAM at some point in their lives. This is higher than the results of the survey by Lim et al[6] which showed the prevalence of CAM use in the general population of Singapore was 76%. Both these values are still much higher than the general population use of CAM in western countries which ranges from 20% to 65%.[5,8] When compared to other studies that looked specifically at patients with chronic pain, the use of CAM is relatively similar (81%).[7] Possible reasons could be that most chronic pain problems are difficult to diagnose specifically and treatments are rarely curative. Even when conventional medications work, they only benefit 30% of the patients. This means the majority of patients would have the inclination to explore other more possibly efficacious and complementary treatments.

It was thought that use of CAM for pain in the primary care setting would be less than that in hospitals (40% to 50%),[10,11] but in fact some studies have shown a higher

usage for arthritic patients in the community (82.8%).[12] Another reason for higher use in tertiary care is because patients seeing specialists have more severe disease and are probably in need of greater pain relief.

CAM use was found to be correlated to ethnicity (P = 0.027) which is not surprising as the majority population in Singapore is Chinese. What was also revealed was that TCM was also the most utilised form of CAM amongst the Malay and Indian population.

Compared to western counterparts, the type of CAM used by chronic pain patients is very different. In this study, TCM was the commonest form of CAM. TCM refers to a broad range of ancient medicine practices that include: herbal medicine, acupuncture, massage (Tui Na), exercise (Qi Gong) and dietary therapy. By far the most popular was acupuncture (49%), followed by Chinese herbs (18%), Tui Na (17%) and seeing a TCM practitioner (15%).

In western countries (in no specific order), massage therapy, spiritual healing, vitamins and chiropractor treatments were more commonly used[9-11] with TCM used in less than 2% of cases.

The apparent low usage of TCM in western countries may be explained by the classification of acupuncture as separate from TCM. In fact, acupuncture may be used by up to 30% of cases.[9] Similarly, an Israeli study found that acupuncture was the most utilised form of CAM to treat pain in their CAM clinic (23%).[13]

The second most popular choice of CAM found in this study was classified as 'Others' (31%). This included massage therapy, vitamins, yoga and chiropractic medicine. The result differs from the survey of the general population in Singapore which found that traditional Malay medicine (Jamu) was second most popular followed by traditional Indian medicine (Ayurvedic medicine).[6]

In line with other studies that found the principal areas of pain to be located in the back, neck and leg,[9,10,13] it is perhaps unsurprising that patients would refer to massage, a chiropractic practitioner and supplements such as glucosamine to manage their pain. There are published clinical guidelines by the American College of Physicians and American Pain Society based on Cochrane reviews to recommend acupuncture, massage therapy, spinal manipulation and/or yoga when self care has not helped improve symptoms.[14] Indeed, specifically with neck pain, this study found that patients were more likely to use TCM, vitamins, massage or see a chiropractic practitioner.

Although this study found a significant association between upper limb pain and the use of TCM, Tui Na and massage, there are no recommended guidelines for this in the literature. A systemic review has shown herbal medicines to be beneficial for irritable bowel syndrome[15] although in this study it was not determined what the specific cause of abdominal pain was.

Patients were more likely to seek a chiropractor when the severity of pain increased than other modalities of CAM possibly because of the perceived 'instant' relief as well as its beneficial effects. Guidelines by the American College of Occupational and Environmental Medicine (ACOEM) recommend chiropractic manipulation for chronic, persistent low back or neck pain and cervicogenic headache. Although not recommended for manipulation were neuropathic pain, chronic regional pain syndrome and routine use.[16]

The reasons why patients choose to use CAM have been much discussed, but not fully understood.[17] The known determinants of CAM use include socio-demographic and patient characteristics. Many studies indicate that CAM users tend to be women, of white ethnicity, middle aged or have more education.[11] No correlation was seen in this study between CAM use and gender, education and income level.

Despite high use of CAM in this study, only 72% felt that it helped with their pain whilst 64% were satisfied to very satisfied with CAM. This seems to suggest that complex psychosocial and cultural factors are in play. It is said some may choose CAM over conventional medicine because of the perceived ineffectiveness, side effects, impersonality and costly treatment of conventional medicine. However, studies have shown users to be no more distrustful or dissatisfied with conventional care.[17] Patients may also find CAM attractive because it resonates with their personal values, religious and health philosophies.[18] Others have reported greater perceived benefit from CAM when they had excellent to very good health and when conventional medical treatment did not help.[19]

Similar to other studies, a large percentage of patients do not discuss the use of CAM with their doctor. Reasons for this have been attributed to patients thinking that CAM is more natural and safe; hence the need to discuss with their doctors is not necessary. Some may even doubt their physicians' knowledge of CAM whereas others are simply not comfortable discussing this topic with their doctors. The overriding reason however, is the lack of inquiry on the physicians' part that patients do not discuss their alternative therapy. Some patients were concerned that their healthcare professional would be dismissive or advise them to stop using CAM.[20] It has been shown that alternative medicines can interact with anti-hypertensive medications in 8% of patients, 29% of those taking anticoagulant/ antiplatelet and 6% of those taking conventional pain medications.[21,22] Patients who do not share their CAM use with their healthcare providers are at an increased risk of adverse event or drug reaction. It is incumbent that practitioners inquire about CAM use as part of their consultation.

This study could have been improved by interviewing more patients from other hospitals. This may have helped in establishing an association between the use of CAM and socio-demographic factors as well as the reasons for using CAM. In addition, the lower representation of minority Singaporeans in this study that may have affected the survey findings of the type of CAM used. As this was a point prevalence study of CAM use, it would have been useful to establish a time correlation of when CAM was used in relation to the use of prescription therapy. To find out if CAM was considered after prescription therapy failed (or vice versa) or whether it was used simultaneously. Also, any adverse effects of CAM were not ascertained.

Conclusion

CAM use among chronic pain patients is high (84%). Acupuncture/ Traditional Chinese Medicine were the commonest form of CAM and this was significantly linked to ethnicity. Given the high proportion of patients who perceived there were benefits from CAM, it may be considered as part of the armamentarium in managing chronic pain.

REFERENCES

1. Gureje O, Von Korff M, Simon GE, Gater R. Persistent pain and well being: a World Health Organization Study in Primary Care. JAMA. 1998;280:147-51.
2. van Leeuwen MT, Blyth FM, March LM, Nicholas MK, Cousins MJ. Chronic pain and reduced work effectiveness: The hidden cost to Australian employers. Eur J Pain 2006;10:161-6.
3. Phillips CJ, Harper C. The economics associated with persistent pain. Curr Opin Support Palliat Care 2011;5:127-30.
4. Von Korff M, Wagner EH, Dworkin SF, Saunders KW. Chronic pain and use of ambulatory health care. Psychosom Med 1991;53:61-79.
5. Zollman C, Vickers A. ABC of complementary medicine. Users and practitioners of complementary medicine. BMJ 1999;310:836-8.
6. Lim MK, Sadarangani P, Chan HL, Heng JY. Complementary and alternative medicine use in multiracial Singapore. Complement Ther Med 2005;13:16-24.
7. Hasan SS, Ahmed SI, Bukhari NI, Cheah WWL. Use of complementary and alternative medicine among patients with chronic diseases at outpatient clinics. Complement Ther Clin Pract 2009;15:152-7.
8. Ernst E. Prevalence of use of complementary/ alternative medicine: a systemic review. Bull World Health Organ 2000;78:252-7.
9. Ho KY, Jones L, Gan TJ. The effect of cultural background on the usage of complementary and alternative medicine for chronic pain management. Pain Physician 2009;12:685-8.
10. Fleming S, Rabago DP, Mundt MP, Fleming MF. CAM therapies among primary care patients using opioid therapy for chronic pain. BMC Complement Altern Medicine 2007;7:15.
11. Rosenberg EI, GenaoI, Chen I, Mechaber AJ, Wood JA, Faselis CJ, et al. Complementary and alternative medicine use by primary care patients with chronic pain. Pain Med 2008;9:1065-72.
12. Callahan LF, Wiley-Exley EK, Mielenz TJ, Brady TJ, Xiao C, Currey SS, et al. Use of complementary and alternative medicine among patients with arthritis. Prev Chronic Dis 2009;6:A44.
13. Peleg R, Liberman O, Press Y, Shvartzman P. Patients visiting the complementary medicine clinic for pain: a cross sectional study. BMC Complement Altern Med 2011;11:36.
14. Chou R, Qaseem A, Snow V, Casey D, Cross JT Jr, Shekelle P, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. Ann Intern Med 2007;147:478-91.
15. Shi J, Tong Y, Shen JG, Li HX. Effectiveness and safety of herbal medicines in the treatment of irritable bowel syndrome: a systemic review. World J Gastroenterol 2008;14:454-62.
16. Occupational Medicine Practice Guidelines: Evaluation and Management of Common Health Problems and Functional Recovery in Workers, 2nd Edition, 2008.
17. Bensoussan A. Complementary Medicine- where lies its appeal? Med J Aust 1999;170:247-8.
18. Vincentt C, Furnham A. Why do patients turn to complementary medicine? An empirical study. Br J Clin Psychol 1996;35:37-48.
19. Kanodia AK, Legedza ATR, Davis RB, Eisenberg DM, Philips RS. Perceived benefit of Complementary and Alternative Medicine (CAM) for Back Pain: A National Survey. J Am Board Fam Med 2010;23:354-62.
20. Complementary and Alternative Medicine: What People Aged 50 and Older Discuss With Their Health Care Providers. AARP and National Centre for Complementary and Alternative Medicine Survey Report April 2011.
21. Izzo AA, Ernst E. Interactions between herbal medicines and prescribed drugs: an updated systemic review. Drugs 2009;69:1777-98.
22. Marsh J, Hager C, Havey T, Spraque S, Bhandari M, Bryant D. Use of alternative medicines by patients with OA that adversely interact with commonly prescribed medications. Clin Orthop Relat Res 2009;467:2705-22.