



A qualitative exploration of GPs' perspectives on managing chronic nonspecific musculoskeletal pain in Australian general practice – a focus group study

Manasi Gaikwad¹, Simon Vanlint¹, Paul Aylward², Nigel Stocks¹

Abstract

Objective: Chronic nonspecific musculoskeletal pain (CNMP) is a complex idiopathic condition that causes significant disruption to patients' lives, their relationships, and functionality. The cause of CNMP is not fully understood, which makes diagnosis and management challenging. As general practitioners (GPs) are central to the management of chronic pain, their perspectives on managing CNMP are important.

Purpose: To explore the clinical reasoning GPs use when diagnosing and managing CNMP.

Methods: A qualitative study design using focus group discussion was conducted with Australian GPs. Five focus group discussions were conducted across Adelaide. All focus group discussions were audio-recorded, and transcripts were coded and analyzed thematically with the program NVivo.

Results: The main themes remained consistent across the five focus group discussions: the ambiguous cause of CNMP; sex differences; developing the "right strategy"; patient-centered care; and verifying vitamin D levels.

Conclusion: The findings show that GPs use a patient-centered approach tailored to individual patients' medical history, physical examination findings, and psychosocial health. There was general concern about low levels of vitamin D in patients with CNMP, and vitamin D supplements were recommended if indicated by a patient's history.

Keywords: Qualitative research; focus group study; general practitioner; chronic pain

1. Discipline of General Practice, The University of Adelaide, Adelaide, SA, Australia
2. Health Sciences Building (2.27), Flinders University, Adelaide, SA, Australia

CORRESPONDING AUTHOR:

Manasi Gaikwad
Discipline of General Practice, University of Adelaide,
178 North Terrace, Level 11,
Adelaide, SA 5006, Australia
E-mail: manasi.gaikwad@adelaide.edu.au

Received 11 November 2016;
Accepted 12 April 2017

Introduction

Chronic pain is Australia's third most costly health condition [1], with one in every five Australians experiencing chronic pain at some point in their life [2]. Similar numbers are reported worldwide [3]. Although pain is now recognized as a disease and is highly researched, its management perplexes the medical world. One of the reasons could be a poor understanding of the variations in the presentation of chronic pain.

Chronic nonspecific musculoskeletal pain (CNMP) is an idiopathic condition with high prevalence reported among patients seeking medical care in general practice [4] and rheumatology clinics [5, 6]. CNMP is distinguished by the clear absence of an underlying anatomical or pathological cause [5]. It is characterized by pain, distress, and disability [7]. Besides poor physical health, it also causes mental and emotional suffering, social isolation [5, 7, 8], and reduced



productivity [9]. As the pathophysiology of CNMP is not fully understood, its management remains a challenge for physicians and patients alike.

General practitioners (GPs) are reported to be the preferred health professionals from whom patients with chronic pain seek medical care [10]. Considering the central role of GPs in the management of chronic pain, their experience, perspectives, and clinical reasoning about CNMP are fundamental to improving our understanding of the different variants of chronic pain. However, little is known about how patients with CNMP are currently being treated by GPs. To address this, we conducted a qualitative study with Australian GPs.

Purpose

The aim of this study was to explore the clinical reasoning GPs use when diagnosing and managing CNMP.

Methods

Ethics approval for the study was obtained from the University of Adelaide Human Research Ethics Committee (approval no. HS-2013-056). Written consent was obtained from every participating GP before the focus group discussion.

Study design

A qualitative method was selected for this study to enable an in-depth exploration of participant experiences, views, and understandings. The synergistic and serendipitous nature of focus groups has been well established [11, 12]. Given that this is an underresearched topic where unpredictable accounts or concerns could potentially arise, focus groups were considered the appropriate exploratory method. An additional advantage of the focus group method was that GPs could potentially learn from each others' experiences during the discussion and thus explore the nature of best practice during (and potentially after) the focus group discussions.

A set of flexible semistructured questions (Appendix 1) developed by the authors (two of whom are practicing GPs) to ensure coverage of research objectives across all focus groups was used as a guide for exploring GPs' views on treatment of patients with CNMP. Participants were encouraged to openly discuss the questions presented and any issues raised with the premise of there being "no right or wrong answers" to encourage

both shared and contrasted contributions to be openly explored. The dynamics of a group were judged to be more likely to generate in-depth discussions where participants could also raise their own questions for collective consideration. Moreover, this flexible method enabled researcher interpretations to be iteratively explored during the group and the opportunity for any apparent emerging themes to be summarized for further critical participant input and revision. Emerging themes identified through initial thematic analysis of each focus group discussion were introduced for further exploration and development in subsequent focus group discussions [13]. Interpretations from the focus groups were communicated to GPs in each focus group both during the group discussion and at its conclusion. This was to enable these interpretations to be reviewed and refined in a collective way to ensure that they fully reflected the concerns, issues, experiences, and opinions expressed. Discussions were concluded when participants concurred that the interpretations reflected the meanings expressed.

Twenty-seven practices were invited to participate in the study, of which five practices agreed to participate. Twenty-three GPs were recruited via phone calls and e-mails to respective practice managers. Every participating GP was provided with an information sheet that included details about the proposed study and the procedure to be followed, ethics approval, and consent. Five focus group discussions were conducted in each of the medical practices in Adelaide, providing various sizes and socioeconomic mixes of groups of patients.

Data collection and analysis

Each focus group session, which lasted approximately 1 h, was audio-recorded and later transcribed with the program NVivo 10. Thematic analysis was performed on the transcribed data following the principles described by Braun and Clarke [14]: (1) familiarization with data and transcription of verbal data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) report production.

Each focus group discussion was conducted and audio-taped by M.G. On completion of each focus group discussion, transcription of the data was performed by M.G., inserting memos to clarify contextual circumstances where appropriate, including intonation of the speaker. The initial coding



was performed by M.G., who then “fed back” her impressions to the team at the end for further discussion and validation against the transcript. The themes linking codes were initially identified by M.G. and S.V., which were then periodically reviewed by P.A. and N.S. Emerging themes were introduced to subsequent focus groups for further discussion and review.

Data trustworthiness and reflexive analysis

The dynamic and flexible nature of the focus group method allowed the moderator to share and iteratively expand on her interpretations of discussions while they were happening, both with supplementary questions and by providing summaries of issues raised with invitations for further contributions to expand and further shape these. This enabled a reflexive practice in that the moderator actively sought to question and reconstruct her own interpretations as part of the focus group activity. This was further enacted through the collective review of themes performed by the whole research team until a definitive consensus, grounded in the original data, was arrived at.

Results

In reporting our qualitative findings, we have complied with the Standards for Reporting Qualitative Research [15].

Demographic data of participants

Five focus group discussions were conducted consisting of 23 GPs. Among the 23 GPs, 4 (17%) were women and 19 were men (83%). Most GPs were aged 45–55 years ($n=17$, 74%), with only two (8.6%) being younger than 40 years. The mean age was 50 ± 8.7 years, and the number of years in general practice ranged between 3 and 43 years, with a mean of 17.5 years.

Thematic analysis findings

Following thematic analysis, five themes were identified: ambiguous cause, sex differences, developing the “right strategy”; patient-centered care; and concern about vitamin D levels.

Theme 1: Ambiguous cause: GPs reflected on the uncertainty of diagnosing and managing CNMP, particularly in the absence of any guidelines. CNMP was believed to have multifactorial causes and pathophysiology that may often precede

Table 1. Some exemplary quotes for theme 1: ambiguous cause

Quotes
“Usually patients with past medical history of untreated falls or fractures present with nonspecific musculoskeletal pain.”
“Patients with previously undiagnosed conditions like autoimmune disease, fibromyalgia often report chronic nonspecific musculoskeletal pain.”
“Many patients with past untreated work-related injuries or sports related trauma, show symptoms of nonspecific musculoskeletal pain.”
“Patients using statins long term can also develop nonspecific musculoskeletal pain.”
“Opioids, benzodiazepines dependency can often lead to chronic nonspecific musculoskeletal pain.”

Table 2. Some exemplary quotes for theme 2: sex differences

Quotes
“Though more females present with nonspecific variant, the reason could be that males rarely visit GPs.”
“Females to males ratio is 2:1, but then again females in general seek medical advice more frequently than males.”
“Males put a name to their pain, usually joints and muscle pain. They focus on the functional reduction and get it treated.”

untreated injuries, falls, sprains, infections, and autoimmune disease. Uncertainty about the underlying cause was a common theme. Some GPs linked the long-term use of medications such as statins, benzodiazepines, and opioids to development of CNMP in later stages. The exemplary quotes for theme 1 are presented in Table 1.

Theme 2: Sex differences: One of the topics discussed was the presence of sex bias. In general, there was consensus that more female patients are likely to receive a diagnosis of CNMP. This, however, was attributed to their general higher uptake of medical services. On the other hand, male patients were believed to seek medical advice for specific issues, such as functional impairment due to pain. The exemplary quotes for theme 2 are presented in Table 2.



Table 3. Some exemplary quotes for theme 3: developing the “right strategy”

Quotes
“Patients come with very different complaints hence it’s difficult to have one approach.”
“Patient has an expectation of a thorough examination which needs to be matched. They need to be assured that the doctor cares and wants to help them.”
“Ideally longer consult would be perfect to build trust and confidence, but often not possible due to time and financial constraint.”
“Doing X-ray or ultrasound scan may make a patient feel great for doing it but adds little value to the diagnosis while increasing the costs and morbidity.”
“X-rays show signs of wear and tear. This is detrimental for patients, shifts their focus from the recovery to the physical aspect.”

Theme 3: Developing the “right strategy”: GPs emphasized that it was important to change the approach of diagnosis on the basis individual patient reports, as patients with CNMP have diverse clinical presentations and needs. The “right strategy” was described as the process of identifying what would work best for an individual patient. The standard modus operandi – history taking, physical examination, and investigation – was used but tailored to the individual patient. Strong emphasis was placed on longer consultation as it helped to take a detailed medical history and provided the GPs with an opportunity to develop a good patient–provider relationship. Arranging longer consults, however, was considered difficult because of financial and time constraints. Most GPs did not encourage the repeating of specialized investigations such as X-rays or CT scans as it was believed to add little or no value to the management, but instead drew patients’ attention to general signs of wear and tear. The exemplary quotes for theme 3 are presented in Table 3.

Theme 4: Patient-centered care: Like diagnosis, management was also reported to be tailored to the individual patient. Setting realistic goals and managing the psychosocial health of patients was reported as the framework for patient care. An

Table 4. Some exemplary quotes for theme 4: patient-centered care

Quotes
“Patients are looking for quick fix need to set realistic goals.”
“It is important to set goals for your patient’s especially functional goals.”
“There is always a psychological component with CNMP patients. Predominantly psychological support is important and often is more beneficial than drugs.”
“Increased stress or anxiety disorder makes CNMP worse and causes a bigger impact but patients are often resistant to diagnosis and need to be convinced tactfully.”

important aspect for setting realistic goals was shifting patients’ focus from complete recovery to improving their functional capacity, mood, and overall quality of life. Management of the psychosocial well-being (mood, stress, signs of depression) of patients was, at times, reported to be more pertinent to recovery than pharmacological therapy. Some GPs also reported limited or no improvement in patients’ conditions if the psychological well-being was overlooked. However, most GPs observed a general resistance from patients in seeking psychological help, such as counseling or therapy, as this was attributed to the stigma attached to such treatments. Judging the appropriate time to introduce patients to these treatment options was considered crucial for their acceptance and continuity.

GPs also endorsed a multidisciplinary approach of management to increase the support system for the patients. This approach was to involve psychologists, exercise physiologists, nutritionists, physiotherapists, and massage therapists. In addition, some GPs advocated the use of relaxation techniques and meditation as beneficial to treatment outcome. The exemplary quotes for theme 4 are presented in Table 4.

Theme 5: Verifying vitamin D levels: There was a general concern among GPs about the vitamin D levels in chronic pain patients, mainly due to lower physical capacity and high body mass index. Although concerned about vitamin D levels, most GPs reported routine testing as avoidable. Instead GPs advised the use of vitamin D supplements if indicated by patients’



Table 5. Some exemplary quotes for theme 5: verifying vitamin D levels

Quotes
"Chronic pain patients are often at risk of vitamin D deficiency due to a sedentary lifestyle."
"Patients are usually inactive with little to no outdoor activities, so the risk of deficiency increases."
"It is cyclic they are not very active, spend less time in the sun, have lower levels of vitamin D, end up having more aches and pain, which makes them more scared of movement."

history, activity levels, ethnicity, and diet. Nevertheless, vitamin D testing was recommended for patients with a high risk of developing deficiency, such as elderly patients living in residential care or previously vitamin D-deficient patients. Use of vitamin D supplements was reported to enhance the overall bone and musculoskeletal health, lessening of aches and pains, and improving the general sense of well-being and mood in patients with CNMP. Vitamin D was also regarded as an economical, readily available adjunct therapy with minimal side effects. The exemplary quotes for theme 5 are presented in Table 5.

Discussion

In this preliminary qualitative study, almost all participating GPs reported on the ambiguous cause and variability in clinical presentations of patients with CNMP. It was believed that CNMP has a multidimensional biopsychosocial basis, with patients exhibiting higher levels of anxiety and depression and poor physical activity. Despite its multidimensionality and unknown cause, the findings from our study show that GPs adopt a patient-centered approach of management tailored to individual patient needs. These findings are similar to those of another study reporting on GPs' management of medically unexplained symptoms. This study described that GPs applied similar strategies of tailoring treatments to patients for management of medically unexplained symptoms in the absence of guidelines [16].

The GPs in our study also put special emphasis on spending more time with patients, developing a good patient-provider relationship, providing support systems, and setting realistic goals for successful management, which was consistent with

other study findings [17, 18]. Similar strategies were used by Canadian clinical practitioners [19], Dutch GPs [20], and Slovenian family physicians [21] when managing medically unexplained symptoms.

In addition, the GPs in our study were also concerned about low vitamin D levels in patients with CNMP and supported the use of vitamin D supplements on the basis of patients' history and lifestyle. It is also reassuring that the GPs in our study, given reports about the overuse of vitamin D testing in Australia [22, 23], reported they avoided routine testing. Although the underlying mechanism by which vitamin D levels might interact with chronic pain is not fully understood, the literature suggests that vitamin D deficiency can sometimes present as nonspecific bone and muscle pain [24]. It is quite possible that vitamin D deficiency may closely resemble CNMP and could be overlooked. Therefore it is not surprising that there have been many observational studies examining the role of vitamin D, some of which support its potential use in various chronic painful conditions [25, 26]. However, caution should be exercised because randomized controlled trials have not demonstrated that vitamin D supplementation is helpful in the treatment of patients with CNMP [27].

Strengths and weaknesses

This study is the first to qualitatively explore the management of CNMP in Australia. Being a qualitative study, the number of participants was characteristically small. However, practices from various areas in Adelaide were selected to cover a diversity of patient populations and to subsequently obtain a spread of GP perspectives.

It is possible that the views and experiences shared by the GPs may have been influenced by their number of practice years, age, or sex; it is noteworthy that younger female GPs did not participate in this study. While the GPs interviewed were not representative of the broader population of Australian GPs in a quantitative sense, the diversity of the GPs participating in this study broadly reflects the demography of Australian general practice.

As with any qualitative study, it may be possible that the moderator could influence the discussion. In this study, the effect was minimized by our having semistructured questions that were written a priori. In addition, it is unlikely that the



moderator could have influenced what experienced and knowledgeable clinicians reported as their current practice.

Conclusion

To our knowledge, this is the first qualitative study to examine the clinical reasoning GPs use when diagnosing and managing CNMP. Our key thematic findings were that GPs use a patient-centered approach to treating CNMP patients that is tailored to a patient's individual clinical presentation, needs, and psychological well-being. Besides, GPs may recommend vitamin D supplements depending on a patient's history and lifestyle. All GPs who advised the use of vitamin D supplements perceived them as beneficial, with none reporting side effects.

Acknowledgments

We acknowledge the support of the medical practice managers and GPs who participated in our research.

Conflict of interest

The authors declare no conflict of interests.

Funding

M.G. was supported by the Australian Postgraduate Award for her PhD degree. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

1. MBF Foundation. The high price of pain: the economic impact of persistent pain in Australia in 2007. Report by Access Economics Pty Limited. 2007.
2. Blyth FM, March LM, Brnabic AJ, Louisa RL, Williamson M, Cousins M. Chronic pain in Australia: a prevalence study. *Pain* 2001;89(2):127–34.
3. Brennan F, Carr DB, Cousins M. Pain management: a fundamental human right. *Anesth Analg* 2007;105(1):205–21.
4. de Vries HJ, Reneman MF, Groothoff JW, Geertzen JH, Brouwer S. Factors promoting staying at work in people with chronic nonspecific musculoskeletal pain: a systematic review. *Disabil Rehabil* 2012;34(6):443–58.
5. O'Sullivan P, Beales D, Jensen L, Murray K, Myers T. Characteristics of chronic non-specific musculoskeletal pain in children and adolescents attending a rheumatology outpatients clinic: a cross-sectional study. *Pediatr Rheumatol Online J* 2011;9(1):3.
6. Kumar A, Gopal H, Khamkar K, Prajapati P, Mendiratta N, Misra A, et al. Vitamin D deficiency as the primary cause of musculoskeletal complaints in patients referred to rheumatology clinic: a clinical study. *Indian J Rheumatol* 2012;7(4):199–203.
7. Hunfeld J, Perquin C, Bertina W, Hazeboek-kampschreur A, van Suijlekom-Smit L, Passchier J, et al. Stability of pain parameters and pain-related quality of life in adolescents with persistent pain: a three-year follow-up. *Clin J Pain* 2002;18(2):99–106.
8. Hunfeld J, Perquin C, Duivenwoorden H, Hazeboek-kampschreur A, Passchier J, van Suijlekom-Smit L, et al. Chronic pain and its impact on quality of life in adolescents and their families. *J Pediatr Psychol* 2001;26(3):145–53.
9. de Vries HJ, Reneman MF, Groothoff JW, Geertzen JH, Brouwer S. Self-reported work ability and work performance in workers with chronic nonspecific musculoskeletal pain. *J Occup Rehabil* 2013;23(1):1–10.
10. Blyth FM, March LM, Cousins MJ. Chronic pain-related disability and use of analgesia and health services in a Sydney community. *Med J Aust* 2003;179(2):84–7.
11. Krueger RA, Casey MA. Focus groups: a practical guide for applied research. London: Sage Publications; 2014.
12. Bowling A. Research methods in health investigating health and health services. London: McGraw-Hill Education; 2014.
13. Stewart DW, Shamdasani PN. Focus groups: theory and practice. 3rd ed. Los Angeles: Sage Publications; 2014.
14. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3(2):77–101.
15. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med* 2014;89(9):1245–51.
16. Czachowski S, Piszczek E, Sowińska A, Olde Hartman TC. GPs' challenges in the management of patients with medically unexplained symptoms in Poland: a focus group-based study. *Fam Pract* 2012;29(2):228–34.
17. Stewart M. Reflections on the doctor–patient relationship: from evidence and experience. *Br J Gen Pract* 2005;55(519):793–801.
18. Stewart MA, McWhinney IR, Buck CW. The doctor/patient relationship and its effect upon outcome. *J R Coll Gen Pract* 1979;29(199):77–82.
19. Brownell AK, Atkins C, Whiteley A, Woollard RF, Kornelsen J. Clinical practitioners' views on the management of patients with medically unexplained physical symptoms (MUPS): a qualitative study. *BMJ Open* 2016;6(12):e012379.
20. Olde Hartman TC, Hassink-Franke LJ, Lucassen PL, van Spaendonck KP, van Weel C. Explanation and relations. How do general practitioners deal with patients with persistent medically



- unexplained symptoms: a focus group study. *BMC Fam Pract* 2009;10(1):1.
21. Ivetić V, Kersnik J, Klemenc-Ketiš Z, Švab I, Kolšek M, Poplas-Susič T. Opinions of Slovenian family physicians on medically unexplained symptoms: a qualitative study. *J Int Med Res* 2013;41(3):705–15.
 22. Gowda U, Smith BJ, Wluka AE, Fong DP, Kaur A, Renzaho A. Vitamin D testing patterns among general practitioners in a major Victorian primary health care service. *Aust N Z J Public Health* 2015;40(2):144–7.
 23. Bilinski K, Boyages S. Evidence of overtesting for vitamin D in Australia: an analysis of 4.5 years of Medicare Benefits Schedule (MBS) data. *BMJ Open* 2013;3(6):e002955.
 24. Lyman D. Undiagnosed vitamin D deficiency in the hospitalized patient. *Am Fam Physician* 2005;71(2):299–304.
 25. Le Goaziou MF, Kellou N, Flori M, Pedrix C, Dupraz C, Bodier E, et al. Vitamin D supplementation for diffuse musculoskeletal pain: results of a before-and-after study. *Eur J Gen Pract* 2014;20(1):3–9.
 26. Shipton EE, Shipton EA. Vitamin D deficiency and pain: clinical evidence of low levels of vitamin D and supplementation in chronic pain states. *Pain Ther* 2015;4(1):67–87.
 27. Gaikwad M, Vanlint S, Mittinity M, Moseley GL, Stocks N. Does vitamin D supplementation alleviate chronic nonspecific musculoskeletal pain? A systematic review and meta-analysis. *Clin Rheumatol* 2017;36(5):1201–8.

Appendix

Q1. Most common presentations of patients with CNMP?

Q2. How often do you see patients with CNMP?

Q3. Do these patients share any common characteristics?

Q4. What are your thoughts on the cause of CNMP?

Q5. What is your approach to diagnosis?

Q6. What is your approach to management?

Q7. Any further comments?