

Chronic non-cancer pain management – insights from Australian general practitioners: a qualitative descriptive study

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ABSTRACT

Background. The study explored the experiences and perceptions of GPs regarding the management of chronic non-cancer pain (CNCP). Specifically, participants were asked to identify perceived enablers and barriers to CNCP care and how the care of patients with CNCP may be improved. **Methods.** The study utilised a qualitative descriptive methodology. General practice in Western Australia. The sample was purposive with 12 Australian GPs from predominantly metropolitan locations and with experience in managing CNCP. Semi structured interviews were conducted. Each interview was of 45–60 min duration. All interviews were audio recorded and transcribed using a secure transcription service. Thematic analysis developed themes inductively and deductively. **Results.** Themes emerged regarding: the importance of a holistic and personalised approach; the important role of a coordinating GP; the need for an evidence-based approach to opioid management; concerns relating to access to multidisciplinary services; the importance of clinician and patient education regarding CNCP; and an acknowledgement of the challenges for doctors and patients in managing CNCP. **Conclusions.** Currently, the management of CNCP in Australia is challenging. Notable challenges include: difficulties with continuity of patient care; challenges with patient expectations of treatment, in particular opioid medications; difficulty with access to the health services required to enable holistic care; and the need for improved pain education in the community. The breadth of these challenges suggests there is a need for supportive organisational and structural considerations in the healthcare system to enable optimal care of CNCP in the community.

Keywords: holistic health, medication therapy management, patient care: management, patient care: team, primary health care.

Introduction

Chronic non-cancer pain (CNCP) places a substantial burden on health care in Australia in terms of personal suffering and economic resources. In 2018, it was estimated that 3.24 million Australians were living with CNCP, many of whom were suffering significant social and occupational loss, with a cost to the country of 73.2 billion dollars (Deloitte 2019). CNCP is a challenging area for healthcare providers due to the complex pathogenesis of chronic pain syndromes and the range and complexity of interventions that are required for positive patient outcomes (Phillips and Clauw 2011). The neuroscientific basis of CNCP differentiates its management from strategies that are useful for treating acute pain and requires a biopsychosocial, holistic model of care (Hasselström *et al.* 2002; Phillips and Clauw 2011; Novy and Aigner 2014). General practice and primary care settings often shoulder a significant proportion of the caseload of CNCP management in the community (Hasselström *et al.* 2002; Bruggink *et al.* 2019).

Patients with CNCP often have other common chronic conditions, such as depression, with CNCP also a risk factor for the development of depression and anxiety (Van Hecke *et al.* 2013; Novy and Aigner 2014). These co-morbidities increase the complexity of CNCP management (Bruggink *et al.* 2019). CNCP requires a biopsychosocial approach to care, which involves pain education and management, optimising psychosocial function,

improving diet quality, sleep and functional capacity, and engaging in regular physical activity. For these patients, treatment ideally includes complex, individualised and ongoing intervention, and frequently requires more than one practitioner to implement. Drugs of dependence, such as opioids, are also commonly prescribed for managing pain, including CNCP, despite guidelines recommending against this practice (Ackermann *et al.* 2017; Busse *et al.* 2017).

The Royal Australian College of General Practitioners (RACGP) have stressed the role that general practitioners (GPs) have in improving the management of CNCP in Australia (Monheit *et al.* 2016; Ackermann *et al.* 2017). At the time of this study, there were, however, no CNCP-specific RACGP endorsed management guidelines for holistic care of patients with CNCP; RACGP guidelines for CNCP being limited to prescribing only. A systematic review has found that clinicians are generally supportive of clinical guidelines, but often find them impractical and difficult to adapt to individual patients. They also feel that guidelines do not give them sufficient autonomy to manage their patients in the way that they and their patients see best (Farquhar *et al.* 2002). The reality of CNCP management in primary care indeed, may be far more complex than guidelines can accommodate.

Previous studies globally have identified barriers and enablers to implementation of best practice guidelines for CNCP in primary care, with such factors occurring at the level of the practitioner, the community and the healthcare system (Ng *et al.* 2021). We believe this to be the first study exploring barriers and enablers to CNCP care from the perspective of Australian general practitioners. This study interviewed GPs in Western Australia, recording their experience and insights into the management of CNCP. Participants were asked to identify the enablers and barriers to CNCP care and to suggest ways that the care of patients with CNCP may be improved.

Methods

Study design

Semi-structured interviews were conducted with GPs in Western Australia to explore their experiences and insights into the care of patients with CNCP in Australia.

Recruitment process

GPs or GP trainees who were currently in clinical practice in Western Australia, who treated patients with chronic pain were recruited through non-probability sampling techniques, including purposive sampling, by advertising through the local Primary Health Alliance and snowball sampling. The purposive sampling technique is a non-probability sampling approach whereby the participants are selected who have

the greatest amount of information and experience about the topic and who are relevant to the research topic or question (Bryman 2012). Sampling is based upon the researcher's knowledge of the target population alongside the purpose of the study (Walter 2006).

The purposive sampling technique used a maximum variation approach to allow for a broader demographic spread among our sample population. Recruitment and interviewing ceased when data saturation was reached and no new themes were emerging from the interview data.

Ethical issues

This study was approved by the University of Western Australia's Human Research Ethics Committee (RA/4/20/4851). Written consent was obtained from all participants before interview.

Data collection methods

Two members of the research team (NM and LG) conducted a total of 12 semi-structured interviews in 2019 and 2020 with GPs. Nine interviews were conducted face-to-face and three were conducted via Zoom. The location of the interview was determined at the convenience of the participants. Some interviews were conducted at the workplace of the interviewer and some at the workplace or residence of the interviewee. Each interview was of 45–60 min duration. All interviews were audio recorded and transcribed using a secure transcription service. The interview schedule is provided at [Appendix 1](#).

The study adopted a qualitative descriptive methodology, which seeks to focus directly on participants' words and experiences, rather than applying interpretive analysis to determine themes (Sandelowski 2000; Colorafi and Evans 2016).

Interviews explored the following topics (see [Appendix 1](#) for details):

- participants' past experiences of managing patients with CNCP
- the challenges of treating such patients
- what would make management of patients with CNCP easier
- experiences of prescribing opioid medication
- resources and information used to help assess and manage CNCP
- what would help to better manage patients
- what would be the ideal scenario when managing CNCP

In addition, two case studies were used to trigger memory, to highlight differences between patients with CNCP and to focus the discussion ([Appendix 1](#)). Case study A describes a hypothetical patient presenting early in the course of pain, manageable by the GP with community resources, and Case

study B describes a hypothetical patient presenting after many years of chronic pain, with addiction to opioid medications and with multiple previous interventions that had not led to any improvement.

Data analysis

Interview data were analysed thematically using QSR-NVIVO V 12 0 (QSR International). Data were open coded initially and then categorised into key themes, which were developed both inductively and deductively. These themes were refined by repeated reanalysis of the data and discussion between members of the research team. The majority of primary coding was undertaken by one member of the research team (LG). However, to achieve increased validity, five transcripts were independently coded by two other members (NM and CB) and results compared, with disagreements resolved by discussion and consensus.

Results

Participants

Twelve participants took part in the study. All were currently practicing GPs in Western Australia. Most had been practicing for >15 years and all had experience in managing patients with CNCP.

Table 1 provides participants' demographic details. Eight GP participants (67%) were female, and 47% of registered GPs in Australia were women in 2020 (Medical Board of Australia 2020). Eleven GPs (92%) worked in Perth, which is a major city of 2 million people. Socio-economic status of practice location was assessed using the Index of Relative Socioeconomic Advantage and Disadvantage (IRSAD) 2016 (Australian Bureau of Statistics 2011). Overall, participant

GPs practiced in areas of higher advantage, with 8 out of 12 working in Decile 9 or 10 areas. With the exception of two GP trainees, our GP participants were highly experienced GPs.

The findings of the 12 interviews have been categorised under the following six key themes:

1. A holistic and personalised approach
2. The important role of a coordinating GP
3. An evidence-based approach to opioid use
4. Access to multidisciplinary services
5. The importance of education about CNCP
6. Emotional challenges of CNCP for doctors and patients.

A holistic and personalised approach

Participants recognised the importance of a holistic approach and described using this to manage their patients with CNCP. They described implementing a number of strategies, such as using a more 'biopsychosocial approach', emphasising a healthier lifestyle and other non-pharmacological interventions.

..more holistic care than just managing their pain.
(Participant 03)

The holistic approach included increasing patients' exercise and activity, improving their psychological health and managing any stresses that contributed to chronic pain.

I really like to keep my patients as active as possible, physically active, socially active and psychologically active. (Participant 07)

Many participants stressed the importance of identifying and treating comorbid mental health problems, including

Table 1. Demographic details of participants.

| Number | Gender | Experience as GP | IRSAD decile of practice suburb ^A | Trained in Australia, UK or other |
|--------|--------|-------------------|--|-----------------------------------|
| 1 | Female | >15 years | Decile 7 | Australia |
| 2 | Male | >15 years | Decile 10 | Australia |
| 3 | Male | >15 years | Decile 9 | UK |
| 4 | Female | 5–10 years | Decile 10 | Australia |
| 5 | Male | >15 years | Decile 9 | Australia |
| 6 | Female | 10–15 years | Decile 10 | Other |
| 7 | Female | >15 years | Decile 10 | Australia |
| 8 | Female | >15 years | Decile 6 (rural) | Australia |
| 9 | Female | Registrar trainee | Decile 5 | Australia |
| 10 | Male | Registrar trainee | Decile 9 | Other |
| 11 | Female | 10–15 years | Decile 10 | Australia |
| 12 | Female | 10–15 years | Decile 7 | Australia |

^AIndex of relative socio-economic advantage and disadvantage (Australian Bureau of Statistics 2016).

identifying risk factors for mental health conditions such as drug and alcohol issues and unemployment.

It's the young people – out of work, litigation, Worker's Comp – those kind of other yellow flags that you get very nervous about – not functioning well anyway. (Participant 02)

Furthermore, a comprehensive history and assessment of pain was seen as an essential part of good management of CNCP, with patients' social context seen as highly relevant.

... I would go back and start trying to get more information from what's happening at the moment and what's happened in the past, about his past experiences with doctors and with medication. And then also try to find out what's happening now. (Participant 03)

Rather than adopting rigid treatment frameworks, all participants felt that best management of CNCP involved goal setting and a personalised plan tailored to the varying situations and needs of individual patients.

.. I like to think about patients' goals and work with them to try and work out what they'd like to do and where they'd like to be in six months' time, 12 months' time into the future. And that might be for any number of areas in their life... (Participant 01)

The important role of a coordinating GP

Participants highlighted the benefits of having one GP, leading and coordinating the care of patients with CNCP, citing a range of reasons. Specifically, these included accurate documentation of their medical history and management, monitoring of treatments (particularly opioids) and effective communication between clinicians.

Quality of record keeping was identified as a potential barrier to good management of CNCP. Participants reported being unable to access information about treatments that patients had previously tried and the reasons for stopping them. Participants also commented on the challenges of sharing the management of their patients with other GPs.

Which means you invariably just take the line of trying to continue with what that other doctor's been doing. Which is not always an optimum way to manage. (Participant 01)

Participants also highlighted the importance of good communication between practitioners, with patients sometimes receiving mixed messages about their pain management, which may present a barrier to recovery.

There ends up being a lot of people involved that aren't really talking. (Participant 04)

An evidence-based approach to opioid use

All participants were concerned about high levels of opioid use and the lack of clinical benefit of opioid medication in patients with CNCP. All were reluctant to prescribe opioids due to concerns over 'prolonging pain instead of helping', preferring to use simple analgesia. Participants discussed various strategies, including having firm practice policies, judicious prescribing and de-prescribing, avoiding initiation of opioids and referral of patients with established opioid use to specialist pain services.

I'm a GP that has never prescribed opioids in the first instance, ever, and I don't ever plan on doing that. (Participant 04)

However, when presented with the scenario of a patient with an established pattern of prolonged opioid use (case B), many participants felt a sense of responsibility to continue prescribing due to the risk of withdrawal or disengagement from medical services.

... you have to have that consistency of approaches. So, if one fortnight, they see you and you've discussed all these things with them, made all these plans but then they decide to see another doctor in between who hasn't decided to do that approach or has decided to renew their opioid prescription or whatever it is, then it's hard to keep the momentum I guess of a good plan going. (Participant 09)

Access to multidisciplinary services

All participants recognised the importance of the multidisciplinary team, in particular the role of allied health practitioners (AHPs), in the care of patients with CNCP.

Access to allied health in the community

The range of recommended practitioners most commonly included physiotherapists and psychologists, and less commonly included occupational therapists, massage therapists, exercise physiologists, practice nurses, chiropractors, dietitians, personal trainers and pharmacists. Many participants identified AHPs specialising in CNCP and believed this was extremely important for patient care, preferring to refer to practitioners who had experience with CNCP management.

A good working relationship with AHPs experienced in CNCP (being able to 'pick up the phone' and talk) was perceived by some participants as crucial to optimal CNCP management. Despite endorsing the work of AHPs, some participants felt they lacked knowledge about the AHPs' skills and the treatments they used.

If you ask many of my colleagues they have no idea what an occupational therapist actually does. (Participant 08)

Many participants found that patients with CNCP could be reluctant to see AHPs for a range of reasons: past experiences, perceived lack of effect, lack of understanding, perceptions of the therapist's role, or because seeing an AHP did not fit with their priorities in managing their pain.

... They've got to be seen by a psychologist and they don't really get how that's going to help them. (Participant 01)

Access to services for rehabilitation of chronic pain, such as AHPs, specialist pain services and even public facilities such as swimming pools, was limited due to financial constraints. Medicare funding for AHPs was seen as highly inadequate. This was less of a concern for patients with access to private services or through workers compensation.

... on a disability pension, there's no way they're going to be able to afford a multidisciplinary team approach... (Participant 01)

Access to multidisciplinary tertiary pain services

Most participants placed significant value on the services provided by specialist pain clinics. Several factors influenced their decision to refer to specialist services, including: more complex patients, use of large amounts of opioids, and financial constraints of the patient. Participants particularly valued the role of specialist pain teams in reinforcing the messages about opioid use and appreciated it when pain specialists communicated well and were available to speak with the GP.

When they get to the clinic, you want to be sure that they're going to get a consistent approach ... and feeding back to you what the plan is. (Participant 09)

Some participants felt there was a lack of consistency and continuity of care in the specialist pain clinics and were sceptical about whether specialist pain services were delivering best practice care, with some believing that such clinics frequently focused too much on procedural interventions.

Furthermore, patient reluctance to seek help for their pain beyond medications was noted by some participants as leading to delayed referral to specialist pain services.

By the time a patient is willing to consider referral to pain specialist services, they are so far entrenched in their chronic pain syndromes that it's really difficult to manage them anyway. (Participant 01)

Participants described long waiting times for specialist pain services, which they thought lead to poor outcomes for patients. In rural areas, access to pain specialists could be even more challenging.

Access to multidisciplinary services affected by financial constraints

Although many participants practiced in a suburb with a high socioeconomic profile, financial constraints were nonetheless a significant concern for their patients with CNCP. Only one participant, working in a fully private billing practice, did not describe difficulty accessing services for their patients with CNCP.

Participants thought that there should be more financial investment into CNCP in Australia. In particular, they felt that there should be more specialist pain services with reduced waiting lists, better access to expert AHPs and more multidisciplinary pain teams.

A lot of the advice that's given to GPs – usually prefaced by 'GPs should and GPs would and GPs ought' – relies on ready, affordable, available access to allied health teams, psychological support teams and hospital outpatients. (Participant 07)

The importance of education about CNCP

Education for patients

Education of patients about the nature of CNCP was seen as a key component of the management plan and in helping patients with their recovery, including formal education sessions. Participants recognised that educating patients on CNCP was itself challenging because of the very information that needed to be relayed to patients. Participants felt that patients had difficulty in accepting that building their self-efficacy and adopting a healthy lifestyle are key aspects to their recovery. This required the need to be 'open and honest' with patients about the origins of their pain and the link between mental health, lifestyle factors and pain.

.. educating patients that it's not that you are being difficult or awkward, you are acting in their best interests. (Participant 03)

Some participants felt improved frameworks and methods of health messaging were needed to educate patients regarding the difficult messages of CNCP, in particular how to bring in exercise and lifestyle measures to manage pain, rather than the escalation of analgesics.

Understanding why taking more painkillers doesn't make it go away, focusing on functioning. (Participant 06)

Participants identified that there could be multiple avenues for sharing knowledge and educating patients, including through GPs, AHPs and pain specialists, as well as through the media, social media and community connections. Consistency of messaging was seen as important, as was the need for regulation of the information that was being shared, in particular through pharmaceutical companies.

.. more community awareness, so you don't have friends going: 'Oh, you need to try Endone...'. (Participant 06)

Continuing education for doctors

Many participants (most of whom were trained in Australia) also highlighted the need to address the gaps in their own medical education at undergraduate, trainee, and post fellowship levels. Participants suggested that CNCP was not seen as important in doctors' training, but is something that is learned 'on the job', with limited supervision provided. Participants thought that better education of health professionals would improve CNCP management overall.

Participants reported keeping their knowledge of CNCP current through a range of activities: talks, clinical placements, articles, GP practice-based educational events, podcasts, conferences, pharmaceutical company-sponsored educational events and multidisciplinary team case-based discussions. However, participants felt they largely learned by experience from their own patients or observing the practice of peers, including AHP peers and especially through case-based discussion with peers.

Participants had diverse views about the need for further development of educational resources for GPs relating to CNCP management guidelines. Some were wary of resources that did not demonstrate an understanding of the conditions under which they worked and the special needs of general practice.

... each case involves so many different facets of the patient's life, [their] biopsychosocial aspects that I think it's hard to apply rules or guidelines or pathways because so many other things come into it. (Participant 02)

Specifically, participants reported that guidelines appeared simplistic and were difficult to implement in the health system in which they worked.

You'll get a computer template that pops up and you'll think here is another bureaucrat telling me how to suck eggs... It will do things like, 'Have you considered physiotherapy?' and I feel like writing back to them and saying, 'Have you considered that there hasn't been a physiotherapist available for seven months?'. (Participant 08 rural GP)

Nevertheless, some participants felt that having multiple CNCP resources in one comprehensive website would be useful.

Emotional challenges of CNCP for doctors and patients

Participants acknowledged that caring for patients with CNCP is emotionally challenging due to the high levels of distress

frequently associated with their patients' disorders. Patients with CNCP were described by participants as 'really distraught', 'not happy', as displaying 'fear and anxiety' and as 'aggressive'. CNCP was seen as being 'frustrating for patients', leading to them 'get(ing) annoyed.'

They described their own response to patients with CNCP as: 'heartsick', 'frustrating' or 'challenging' and described CNCP itself as 'not something that you can fix'.

You see that name on your list and you almost put your head in your hands. (Participant 03)

Despite these emotional responses, participants clearly had the desire to help their patients with CNCP and could find treating CNCP rewarding:

I think if you have the knowledge and the contacts, it can be incredibly rewarding to manage patients with chronic pain. I think there are patients who really get lost in the system and haven't received the encouragement and the right direction, so when they finally get it, the results can be absolutely incredible. I've got numerous case examples of that. (Participant 01)

Discussion

In 2021, the Australian Government Department of Health and Aged Care developed the National Strategic Action Plan for pain management, which set some key priorities, including a community awareness campaign, a centralised accessible site for accessing pain resources, an overarching education strategy for health practitioners, building research, setting practitioner standards of practice, conducting a needs analysis of pain services and recognising pain as a chronic complex condition in its own right with implications for Medicare remuneration for practitioners (Australian Government 2021). These priorities are consistent with key areas identified in our study.

Our in-depth interviews with GPs regarding their experiences of managing patients with chronic pain identified areas of key importance for GPs. These included the need for a holistic and personalised approach to CNCP management with benefits when a GP is coordinating care. GPs highlighted the critical need for consistent education for clinicians and the community regarding CNCP, including the importance of an evidence-based approach to opioid management. GPs also identified major challenges to managing CNCP, including problems with access to multidisciplinary services, specialist pain services and allied health, as well as the emotional challenges of CNCP for both doctors and patients.

Our findings are not unique to GPs in Western Australia. A metasynthesis of similar studies by Ng et al. (2021) concludes

that CNCP is a complex condition that requires improved support from all levels of the healthcare system. Ng *et al.* (2021) describe multiple factors affecting implementation of a biopsychosocial approach to chronic pain, including the importance of both healthcare provider and patient understanding of the complexities of chronic pain, the benefits of a strong therapeutic relationship and an individualised approach. Misperception of chronic pain by clinicians and patients was also identified by Ng *et al.* (2021) as a barrier to implementing best care, as well as the perception that existing clinical guidelines may not adequately address the diverse needs and expectations of people with CNCP. Difficulties with access to the services required to implement best practice care were also described in many studies.

GPs in this study recognise that poor patient outcomes result when there is an absence of continuity of patient care (Freeman *et al.* 2003). They reported that there are challenges when patients with CNCP ‘doctor shop’, seeking help for their condition from multiple GPs. Previous reports confirm that ‘doctor shopping’ can be common in patients with CNCP, and may result in the entrenchment of unhelpful behaviours including opioid dependence (Biernikiewicz *et al.* 2019). In such situations, patients benefit from seeing one GP who is well informed regarding their complex medical history and can reinforce lifestyle and other non-pharmaceutical advice, coordinate interdisciplinary care and monitor for improvements in functional recovery (Freeman *et al.* 2003; Schneiderhan *et al.* 2017).

GPs in our study also reported that patients with CNCP often have attitudes that hinder their own recovery. These include unrealistic expectations of treatment outcomes, a desire for rapid symptom control through analgesia, reluctance for AHP referral and a mistrust in the benefits of the biopsychosocial approach. GPs regarded patient education about chronic pain as a vital part of their treatment plan. They suggested that the messages provided by pain education should be consistent between practitioners and across the community to reduce uncertainty and confusion for patients about the best management approach (Schneiderhan *et al.* 2017). GP education was seen as vital by participants in this study, aligning with the recommendations of the Australian National Strategic Action Plan for Pain Management, which identifies clinician education as a priority (Slater *et al.* 2022).

GPs in our study also identified a number of systemic problems affecting chronic pain outcomes for their patients, including lack of funding at all levels of the health system, a lack of training opportunities for GPs in the area of pain management, poor understanding and inconsistent messaging within the community with regards to best care of CNCP, and a health system that allows ‘doctor shopping’. GPs expressed concern regarding the use of opioids in CNCP treatment and were reluctant to prescribe them, yet acknowledged there are complex clinical situations involving patients with established opioid use that may result in opioid

prescription. These problems are also observed globally and seen to be linked to the global opioid epidemic (Jackson *et al.* 2016; Jones *et al.* 2018; Deloitte 2019).

Due to their unique knowledge of their patients, including their multi-morbidities, GPs are well positioned to identify and treat CNCP early in its pathogenesis, thus improving prognosis (Gatchel *et al.* 2003). However, participants in our study reported feeling that their management strategies often did not yield the desired outcome for their patients, due to the inaccessibility of the necessary treatments. Barriers to access included high costs, limited funding for allied health under Medicare, lack of access to local allied health and pain services and long waiting lists.

In our study, GPs were cognisant of best practice for CNCP management, but they identified multiple barriers to its implementation. These barriers were frequently outside of the GPs' control and made it difficult or, in some cases, impossible to put recommended management guidelines into practice. As a result, GPs found managing CNCP could be both frustrating and challenging.

At the time of this study, there are no guidelines for the management of CNCP endorsed by the RACGP, thus GPs in Australia must refer to broader pain management guidelines and other sources (Ackermann *et al.* 2017; Tauben and Stacey 2020). Future guidelines development should consider the findings of our study. In particular, guidelines for CNCP should consider the role of complex multi-morbidity in the context of CNCP (Farquhar *et al.* 2002; Bruggink *et al.* 2019) and that in order to implement best practice, recommended care must be feasible and realistic within the Australian health system, which currently has limited access to allied health and specialist pain services.

Limitations

The qualitative criteria for the trustworthiness of research are defined by Lincoln and Guba (1986) as credibility, dependability, confirmability/objectivity, transferability and authenticity. The methods we used to meet these criteria are outlined in Table 2.

Limitations relate to participant sample demographics and potential bias and non-generalisability of the participant sample.

Recruitment methods may have attracted GP participants with specific interest in chronic pain management. This approach is acceptable in a qualitative study whereby those with the maximum amount of information and experiences around the topic area are selected for this specific reason (Bryman 2012).

Most participants were very experienced practitioners, working in suburbs with high IRSAD deciles. Only one participant was working in a rural location. It is possible that interviews with less experienced GPs and GPs working

Table 2. Trustworthiness criteria for qualitative research and application of these in this methodology.

| Trustworthiness criteria | Application to this study |
|---|--|
| Credibility <i>Truth in representation and interpretation of participant views.</i> | <ul style="list-style-type: none"> • Report on participant engagement • Report on interview process • Provide the interview schedule • Maintain an auditable research process by using QSR NVivo 12 to document the process of interviewing coding and analysis |
| Dependability <i>Consistency of the data over similar conditions</i> | <ul style="list-style-type: none"> • Actively manage individual researcher bias • The two interviewers, LG and NM, collaboratively developed and pilot-tested a semi-structured interview guide to provide consistency between interviews • Demonstrate consistency in data collection for all participants – asking the same questions in the same order |
| Confirmability/objectivity <i>Ability to demonstrate that the data represents participant viewpoints and not pre-existing researcher biases</i> | <ul style="list-style-type: none"> • Describe the process for interpreting data • Demonstrate themes in the data with direct quotations in reporting • Maintain an auditable research process using QSR NVivo to document all analysis processes • Explore potential bias in regular research meetings |
| Transferability <i>Findings can be generalised and applied to other similar contexts</i> | <ul style="list-style-type: none"> • Reporting provides sufficient information on participants and the research context to allow readers to evaluate transferability |
| Authenticity <i>The extent of faithful expression of participants' feelings and emotions</i> | <ul style="list-style-type: none"> • Reporting allows readers to understand a participant's experience through direct quotation |

in more remote or impoverished areas would have identified other challenges with managing CNCP. It may be useful for further studies to target these populations. All GPs were working in Western Australia; however, our findings reflect the global problems of CNCP (Jones et al. 2018; Lakha et al. 2019; Ng et al. 2021).

Conclusion

Currently, the management of CNCP in Australian general practice is challenging, notably fragmentation of patient care, challenges with patient expectations of treatment, the opioid epidemic, difficulty with access to the health services required to enable holistic care, GP training and community understanding of pain. Further research is needed to guide GPs on the most effective CNCP care within the limitations of current primary healthcare services. The breadth of these challenges suggests a need for supportive organisational and structural considerations in the healthcare system to enable optimal care of CNCP in the community.

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Appendix I. Semi-structured interview script, including case studies

Semi-structured interview script

Could you tell me a bit about your past experiences managing patients who have chronic pain?

- If they don't expand on this trigger then can explore with a more direct question.

For example: Do you experience any difficulties when managing patients with chronic pain?

In particular, understanding why they have persistent pain.

Why treatments aren't working

Any difficulties in accessing services

Patient A

Patient A is a 28-year-old woman who works at a call centre in the local council. She previously enjoyed good health and had a healthy lifestyle including a regular exercise habit. She had a mild depressive illness when she was an adolescent, but has not had any mental health problems since then.

3 months ago, as a result of a severe staffing shortage, she was required to work a large amount of overtime in the call centre. During this period, she developed some pain in her neck. She initially continued to work, but found the pain was worsening, so she needed to take time off work and she registered a workers compensation claim. In the ensuing weeks, her pain has worsened and become more distressing, she feels that her workplace is not very happy with her workers' compensation claim with her need to return to reduced duties and reduced hours, and there is a lot of pressure on her to return to her usual duties before she feels ready to do so.

If this was your patient:

(a) How would you approach working with this person to help her manage her pain?

- Would you involve any other services or healthcare practitioners in your management plan? If not, why not? If yes, what do you consider when choosing the health practitioner?

(b) What challenges do you see in helping this patient

(Continued on next page)

Semi-structured interview script

- *Due to the condition, the patient, the health system (including access to other health services)*
- (c) (If not already covered above) Do you anticipate any barriers to your management plan?
- (d) What resources would you use as part of your plan to manage this patient?
- (e) If this patient asked you to prescribe opioids, how might you respond?

Patient B

Patient B is a 45-year-old man who has had a painful back since he was 25-years-old. He was working as a concreter at the time his back pain first developed, and he has not worked in paid employment since his late 20s and is on the disability pension for the dual diagnosis of depressive illness and chronic pain. He has a past history of heavy recreational drug use in his 20s. He has had numerous investigations and reviews by multiple specialists. No treatable cause for his back pain has been identified. He is currently taking a large amount of prescription opioids for his pain and this use is increasing.

If this was your patient:

- (a) How would you approach working with this person to help him manage his pain?
 - *Would you involve any other services or healthcare practitioners in your management plan? If not, why not? If yes, what do you consider when choosing the health practitioner?*
 - (b) What challenges do you see in helping this patient?
 - Due to the condition, the patient, the health system (including access to other health services)*
 - (c) (If not already covered above) Do you anticipate any barriers to your management plan?
 - (d) What resources would you use as part of your plan to manage this patient?
 - (e) If this patient asked you to prescribe opioids, how might you respond?
- Do you think that your management for these two patients would be different? If so why and how would it differ?

Thinking about the patients in your own practice now:

- (a) What factors make it challenging to manage your patients with chronic pain that have not been already mentioned?
- (b) What factors make it easier to manage your patients with chronic pain?
- (c) (if not already discussed in detail) What is your experience of prescribing opioid medication for people with chronic pain?
- (d) What do you think you would need to help you manage patients with chronic pain? (i.e. do you have a wish-list for chronic pain management?)
 - *If necessary, provide prompts about patient factors, local health system factors, health system factors, guidelines.*

The next questions are about how you access resources and information to help you assess and manage complex problems such as chronic pain.

- (a) How do you tend to access information about these complex problems?
 - (b) What sort of resource do you prefer?
 - (c) (if not already discussed in detail) In particular, have you accessed information about chronic pain?
 - (d) Tell me about that resource, what was good and not so good? What could be done to improve it?
 - (e) Do you think it would be useful for you to have a computer template for managing chronic pain? If yes, what would you like it to contain?
 - (f) Do you have any final comments or thoughts you would like to share about managing patients with chronic pain in general practice?
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