JAN JOURNAL OF ADVANCED NURSING

ORIGINAL RESEARCH

Self-management and chronic low back pain: a qualitative study

Marie Crowe, Lisa Whitehead, Mary Jo Gagan, David Baxter & Avin Panckhurst

Accepted for publication 5 February 2010

Correspondence to M. Crowe:
e-mail: marie.crowe@otago.ac.nz

Marie Crowe PhD RN
Associate Professor
Centre for Postgraduate Nursing, University of Otago, Christchurch, New Zealand

Lisa Whitehead PhD RN
Director
Centre for Postgraduate Nursing, University of Otago, Christchurch, New Zealand

Mary Jo Gagan PhD RN
Senior Lecturer
Centre for Postgraduate Nursing, University of Otago, Christchurch, New Zealand

David Baxter DPhil MBA
Professor
Centre for Physiotherapy Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand

Avin Panckhurst MSc
Research Assistant
Centre for Postgraduate Nursing, University of Otago, Christchurch, New Zealand

CROWE M., WHITEHEAD L., GAGAN M.J., BAXTER D. & PANCKHURST A. (2010) Self-management and chronic low back pain: a qualitative study. *Journal of Advanced Nursing* **66**(7), 1478–1486.
doi: 10.1111/j.1365-2648.2010.05316.x

Abstract

Title. Self-management and chronic low back pain: a qualitative study.

Aims. This paper is a report of a study of the self-management strategies of people with chronic low back pain and how their healthcare professionals perceived their role in facilitating self-management.

Background. Chronic low back pain is a complex disorder, challenging to treat, and associated with wide-ranging adverse consequences including physical disability, psychosocial disruption, and increased use of healthcare resources. Most clinical guidelines suggest that self-management strategies are the best treatment option.

Design. A qualitative analysis was conducted of semi-structured interviews with 64 people identified as having chronic low back pain and 22 healthcare professionals nominated by that person. The interviews were conducted in 2008. The people with chronic low back pain were asked about their self-management strategies; healthcare professionals were asked about how they perceived their role in the person's self-management. Data were analysed using a content analysis.

Findings. The most common strategies used by participants to manage their chronic low back pain were medication, exercise and application of heat. The nominated healthcare professionals were predominantly physiotherapists and general practitioners. Physiotherapists described exercises, particularly those aimed at improving core strength, as the main strategy that they encouraged people to use. General practitioners regarded themselves as primarily having three roles: prescription of pain medication, dispensing of sickness certificates, and referral to specialists.

Conclusion. People with chronic low back pain use self-management strategies that they have discovered to provide relief and to prevent exacerbation. The strategies reflect an active process of decision-making that combines personal experience with professional recommendations.

Keywords: chronic illness, chronic low back pain, exercises, nursing, pain management, patient experience, self-management

Introduction

Chronic low back pain is a complex disorder, challenging to treat, and associated with wide-ranging adverse consequences including physical disability (Weiner *et al.* 2006), psychosocial disruption (Reid *et al.* 2003), and increased use of healthcare resources (Carey *et al.* 1995). Because of its prevalence nurses will care for many people experiencing this condition, although this may not be the index condition for which they are receiving care. It is likely that it may be a comorbid condition for which advanced nursing practice across primary care, acute care and rehabilitative care has a significant role (Williams 2004). It is important, therefore, to understand how people with chronic low back pain manage their condition.

Background

More than 80% of the population will experience low back pain at some stage in their lives (Rubin 2007). Most will recover, but around 5% of the population will develop chronic low back pain (i.e. pain that lasts longer than 3 months) (Freburger *et al.* 2009). People with higher than average initial pain intensity, longer duration of symptoms and more previous episodes are more likely to develop chronic low back pain (Hancock *et al.* 2009). While the traditional biomedical model may provide an adequate conceptual framework for the management of acute pain, it is not appropriate for chronic pain (Justins 1996).

In a comprehensive review of treatments for chronic low back pain, Van Tulder *et al.* (2006) found several treatments to be effective for short-term improvement of function, namely COX2 inhibitors (a type of non-steroidal anti-inflammatory drug), back schools (education programmes), progressive relaxation, exercise therapy and multidisciplinary treatment. They noted that there was no evidence that any of these interventions have long-term effects on pain and function, and that many of the trials had methodological weaknesses.

The British Medical Journal Clinical Evidence series on best treatment of back pain (BMJ Publishing Group Ltd 2009) also supports exercise and promotes a multidisciplinary treatment programme that could includes cognitive behavioural therapy, treatment with hot and cold packs, transcutaneous electrical nerve stimulation, massage, relaxation exercises and hydrotherapy.

In New Zealand, the Acute Low Back Pain Guide, published by the Kendall *et al.* (1997, p.30) and based on British and American guidelines, notes that attempts to prevent the development of chronic pain through physiological or pharmacological interventions in the acute phase have been relatively ineffective, and that inadequate control of acute pain may increase the risk of chronic pain. These clinical guidelines do not include any treatment for chronic low back pain, but emphasize the importance of self-management techniques and the success of these techniques for return to work.

Because there is no effective long-term medical treatment for chronic low back pain, there has been an increasing emphasis on self-management. The principles of self-management in chronic conditions have primarily been derived from Stanford University's Chronic Disease Self-Management Program (Lorig *et al.* 1999). This focuses on (1) techniques to deal with problems such as frustration, fatigue, pain and isolation, (2) appropriate exercise for maintaining and improving strength, flexibility and endurance, (3) appropriate use of medications, (4) communicating effectively with family, friends and healthcare professionals, (5) nutrition and (6) how to evaluate new treatments (Lorig *et al.* 1999). The Flinders Programme (Battersby *et al.* 2007) identifies itself as complementary to the Stanford model and proposes that self-management involves the person with the chronic condition engaging in activities that protect and promote health, monitoring and managing the symptoms and signs of illness, managing the impact of illness on functioning, emotions and interpersonal relationships and adhering to treatment regimes. It is interesting that neither of these programmes prioritizes the person's experience and expertise as central to the process, but rather suggests that people with chronic illness need education. Holm (2005) has suggested that a first person perspective and the patient's understanding of their own lived body is central to the successful management of disease.

Despite this emphasis on self-management, there is little research from the perspective of the person experiencing chronic low back pain about how to manage the pain and disability, and which strategies are effective. Equally, research on clinicians' recommendations about self-management is limited. In a qualitative study exploring the self-management strategies used by people with chronic low back pain, May (2007) found that exercises and a general awareness of having a back problem were the most common. Other strategies included application of heat, massage, analgesics, help from family, wearing a corset at work, pacing activities and use of information from a self-help book.

The study

Aim

The aim of the study was to explore the self-management strategies of people with chronic low back pain (CLBP) and

how their healthcare professionals perceived their role in facilitating self-management.

Design

This was a qualitative study using semi-structured interviews. A qualitative approach was employed to capture what participants were doing to manage their chronic low back pain without using pre-determined categories and to enable individual strategies to emerge.

Participants

Inclusion criteria

People were included in the study if they were 18 years of age or over and suffering from chronic low back pain, defined as pain, muscle tension or stiffness localized below the costal margin and above the inferior gluteal folds, with or without leg pain (sciatica), and persisting for longer than 12 weeks. Healthcare professionals were included if nominated by recruits with chronic low back pain.

Recruitment

Participants were recruited via two different avenues between April and November 2008. The majority (80%) were recruited through response to an article on chronic lower back pain in a free community health newsletter. The remaining participants were recruited through physiotherapy clinics. Because individuals recruited though the article opted in to the research study by contacting the researcher, a full assessment was undertaken by a trained research assistant to ensure that they met inclusion criteria. In addition, their medical notes were accessed with their permission to confirm the diagnosis. All recruits who met the inclusion criteria were included in the sample. The sample size was determined by response rates to the advertisements over a 6-month period.

Data collection

Interviews

Face-to-face semi-structured interviews were conducted with the people with low back pain, asking questions about their pain experience, management of the pain, and perceived barriers and facilitators in treatments for managing chronic low back pain. The interview was semi-structured around a series of prompts (see Table 1). All interviews were conducted by an experienced research assistant with training in the conduct of qualitative interviews. The process was supervised by one of the investigators to ensure procedural rigour and to review the content of the tape-recorded interviews.

Table 1 Interview prompts for participants with chronic low back pain

- Can you tell me about your experience of chronic low back pain?
- How would you describe the pain?
- What do you do to manage the pain?
- What kinds of things make the pain better or worse?
- Have you changed the management of your pain since you were first diagnosed?
- What services/treatments have enabled you to manage your pain?
- Have there been any difficulties in receiving advice/treatment for your pain?

Table 2 Interview prompts for healthcare professionals

- What is your perception of [patient's name] ability to self-manage her/his chronic lower back pain?
- What is in your role in helping [patient's name] to manage his chronic lower back pain?
- How do you do that?
- What do you think makes [patient's name] chronic low back pain worse?
- What do you think helps [patient's name] chronic low back pain?

The nominated healthcare professionals were interviewed via telephone as most had identified this as the preferred mode. A series of prompts was used, as shown in Table 2.

Ethical considerations

Ethics approval was obtained from the appropriate committee before recruitment of participants. The advertisement used had ethics approval. The interviews were digitally recorded and then immediately down-loaded into a computer storage programme. These files were then sent electronically to one experienced audio-typist, who was required to sign the confidentiality and storage statement required in the ethics approval. The transcribed files were then stored in a secure folder on a university computer system.

Data analysis

Interviews were transcribed verbatim and content analysis conducted to identify key self-management strategies. Qualitative content analysis has been described by Graneheim & Lundman (2004) as an interpretive process that involves examining texts for manifest and latent content. It involves an in-depth exploration of the text for meaning units within a specific content area, in this case, self-management practices, and then the development of categories for these. The focus in this study was the manifest content. This

approach was chosen as the analytic framework because it enabled identification of what the participants were doing rather than exploring latent meaning in an interpretive process.

Coding was conducted manually by one very experienced analyst and the codes were validated by two of the other investigators. Saturation was achieved when it was identified that no more manifest content was emerging, however all transcripts were analysed to achieve this.

Rigour

Rigour was established in this study using the criteria of audit trail, dependability and confirmability (Denzin & Lincoln 2005, p. 205). The interviews were conducted by one interviewer to ensure consistency and reliability in data collection. All the tape-recorded interviews were reviewed by two of the investigators. The initial content analysis was conducted by one investigator and confirmed independently by other investigators. Sufficient raw data are presented here to enable readers to judge the procedure and findings and assess their applicability to other settings.

Findings

People with chronic low back pain

The participants were 64 individuals suffering from chronic lower back pain and their nominated healthcare professionals. There were 31 women and 33 men in the sample, with an average age of 55·1 years (SD = 13·2; range 25–80 years. The majority (81%) identified themselves as New Zealand European. The duration of the interviews ranged from 12 to 45 minutes.

The most common strategies used to manage chronic low back pain were medication, exercise and heat. Of these, use of medication was the most commonly cited, with most participants describing use of both anti-inflammatory medication and analgesics.

Taking medication

A few of the participants used general practitioner-prescribed analgesics to manage their pain when it was severe:

I've got [oxycodone] that I have in the morning and at night time, and if I have any breakthrough or really, really bad pain, I've got a bottle of pethidine at home.

When it gets really severe that's when I will resort to pain killers and it depends on what I've done through the day and how severe it's going to be yeah.

However, the most commonly used medications were over-the-counter typed – paracetamol and non-steroidal anti-inflammatory medications:

I take [paracetamol] or [ibuprofen] or something like that. They are pretty good. Otherwise I just yeah, just get on with it.

Sometimes it is just so bad that I have to go inside and sit down or take a [paracetamol] or something and wait for it to disappear and then get back out there. And it's usually an hour and you are back into it again.

I keep forgetting I am allowed to take some pain killers so I suppose when I know it might escalate I will take some ibuprofen or [paracetamol]. That helps. When I remember I am allowed to; because I am not a pill person.

Participants expressed a general reluctance to use medications and a form of medical compliance related to being '*allowed*' to take medication. The medication was primarily used to enable them to '*just get on with it*'.

Low impact exercise

Low impact exercise was also strongly favoured as a self-management strategy by participants. Some did exercises that they had been taught by physiotherapists, or that other people with chronic low back pain had told them about:

Some of the exercises I have [learned from physiotherapist], others you know you hear about or somebody will tell you "well I do this or I do that" and so you give it a try.

[I do] exercises that the physio [physiotherapist] taught me. Um, it got really sore again while I was doing the physio, I did something. Can't remember what it was and it was really sore again and I couldn't do the exercises I was meant to do so I went back to do the early ones they taught me. And that sort of relaxed and stretched it a bit and I went back into those and it worked really well and it was only about a week later and I was nearly back to where I was beforehand.

I've been doing the Pilates at physiotherapy and the walking has vastly improved my condition.

Well I'm walking for an hour every day, maybe 3 days a week I'm cycling well not very far, 10–15 minutes sometimes down to the hall which is about 15 minutes away; and then I swim for half an hour, but I try to do that 5 days a week but as I say I walk a friend's dog and that's some exercise.

The use of low impact exercise was generally a strategy that participants had learned from physiotherapists or from others with a similar condition.

Direct heat

The participants also described the effectiveness of direct heat, either in the form of showers or baths or electric blankets or wheat packs:

I have a lot of baths. I like a really nice hot bath as well but I find, and right from the beginning I found the heat really always helped so that's good.

When I have a shower I just turn the water up hot as hot as hell and direct it to where it's sore.

Somebody gave me one of those wheat packs that you heat up and that helps, that's good.

One thing that helps is putting the electric blanket on in the morning to warm my body up and warm my back.

The use of direct heat could be regarded as a strategy learned from personal experience, as the participants indicated that it was something they had learned to do for themselves rather than being advised to do.

Other commonly used strategies were pacing, environmental awareness and diversional activities:

I usually pace myself on what I do on a daily basis and I know what I can and can't do.

If I carry on working all the time, just continuously doing housework or bending down, doing the dusting and things, it comes and it won't go. The back pain gets worse and worse until I actually stop. Then I have a rest and then I just have to leave it for next time.

I modify my environment. Like in my car I've got you know a cushion that I sit on in the car because it's comfortable and it's the right level for me and I've got to have the car seat exactly at the right place and if I'm going on a long trip I have to make sure it's right before I start because when I get there it will be wrong, you know my back will be so bad.

I have hobbies that I do so I like to get involved really stuck in with what I'm doing to take my mind off the pain. So I just basically keep going.

And I find music very helpful, absolutely. I take 1 hour out each day and that's my quality time where I listen to music.

While they may have got the idea for these other strategies from physiotherapists, the ways in which they were implemented were based on personal experience.

Many participants had a sense of resignation and frustration about the effectiveness of strategies for relief of their chronic low back pain, and described coping strategies:

You just have to put up with it.

I don't think there's a lot, I mean when it's full on and giving me as much as it can there is nothing, there is nothing you can do except to just grin and bear it and hope like hell there's no one around there listening to you moaning and groaning.

I guess you rationalize it into your life, like I mean things could be a whole lot worse so you know just get on with it really.

I don't tend to take pills terribly much. Um, I mean I do if it is really, really, really, really bad but I don't tend to, I tend to just put up with it really.

I'm resigned to the fact now that if I've got a really, really bad day and I'm in bed there's nothing I can do about it, so I just go with the flow and I've done that for what 30 odd years.

The approach to living with chronic low back pain of '*putting up with it*' and '*getting on with it*' pervaded the interviews. While these may not be regarded as self-management strategies in themselves, the use of the strategies outlined above enabled participants to take on this approach.

Healthcare practitioners

The majority of participants with chronic low back pain had no regular contact with healthcare professionals; however, 15 identified that healthcare professionals played a role in their self-management. The duration of the healthcare practitioner of interviews ranged from 10 to 18 minutes.

The nominated professionals ($n = 15$) were predominantly physiotherapists or general practitioners. It is important to note that most participants did not nominate a healthcare provider because they did not have anyone actively involved in the treatment of their chronic low back pain.

Physiotherapists primarily described exercise, particularly those aimed at improving core strength, as the main strategy that they encouraged people to use:

I have been providing exercises for her to do at home and then doing like a gym type programme when she comes in to try and increase her fitness and core strength.

We always try and get people actively involved. Looking after themselves. Now that can take various forms, sometimes it's just telling them what to avoid and what to do which could be a simple thing such as making sure they go for a walk every day.

Some physiotherapists expressed frustration that in some cases there was little they could to help the person manage the pain:

You know some patients you see, you think 'crikey' there is nothing I can do, I know you feel pain yeah but there is nothing I really can see that is holding you back.

General practitioners (GPs) regarded themselves as primarily having three roles: prescription of pain medication, dispensing of sickness certificates, and referral to specialists:

I'm just really there to prescribe analgesia so that she can manage her own pain.

Giving her certificates, and sending her back to [specialist]'.

The main sorts of things have been to coordinate the specialist reviews and get some, try to get some answers for him.

Some GPs expressed frustration or cast doubt on the nature of the participant's problems:

I would probably call her sort of a victim... she tends to somatize a lot of her anxiety and depression. And, so she comes in a lot with complaints that don't have any physiological background to them.

Nothing seems to work. But she always comes in with multiple problems. So I probably didn't do much for her.

I think he has poor insight and poor coping skills. All is shifted onto health professionals.

The main role that emerged from the interviews with physiotherapists emphasized exercise, while GPs described primarily a medication provision and gate-keeping role.

Discussion

Study limitations

While the sample size for the people with chronic low back pain was relatively small, it reflected the number of people prepared to volunteer to take part in an interview. The small sample size for healthcare professionals interviewed reflected the numbers identified as involved in their back care by participants with chronic low back pain. Participants were predominantly New Zealand European, which would have created cultural bias. Recruitment bias was possible because of self-selection and because of the sites through which the study was advertised. There may have been other biases related to a single interviewer performing all interviews and one analyst performing the initial content analysis. While both the interview and analytic processes were validated by other investigators, this may have been a source of potential bias. Strengths of the study were the equal distribution of sexes and the age range of participants.

Coping with low back pain

People with chronic low back pain had learned to resign themselves to the condition as something that could not be changed and which they tried to overcome. They used a fairly limited range of self-management strategies: some recommended in clinical guidelines, although there was no evidence that they had been aware of this; some recommended by physiotherapists and to a limited extent GPs; and some learned through personal experience. Most participants recognized exercise as effective, were generally resistant to taking medication regularly, and found that application of heat relieved the pain. May (2007) also found that people with chronic low back pain employed strategies that came partly from healthcare professionals and partly from personal experience. The approach to self-management described by our participants could be described as what Koch *et al.* (2004) describe as a Self-Agency Model of Self-Management, in that the majority did not nominate a healthcare professional as being in a position to discuss their condition.

Participants based their decision-making about pain management on trial and error and previous experience. This is supported by Ross *et al.*'s (2001) findings that patients frequently referred to the need to find out for themselves what strategies worked, and that they were influenced by the severity of the pain, personal experience and self-knowledge. Professional advice was only sought after trial and error and consultation with family and friends, because participants in the Ross *et al.*'s (2001) study were somewhat sceptical about the prescribing practices of clinicians. Davis and McVicar (2000) suggested that pain in the general population is still undertreated due to misconceptions about pain and the pharmacology of pain control, and they suggested nurses may unwittingly pass these misconceptions on to patients and their families.

The reluctance of our participants to use analgesics has also been found in other studies. Cowan *et al.* (2003) found that the under-use of analgesics, particularly opioids, was a major barrier to adequate pain management. They found this under-use could arise from exaggerated fears of adverse effects, including addiction, and was compounded by inadequate or inaccurate knowledge of opioid pharmacology. Lansbury (2000) suggests that this fear is related to concerns over side effects and fear of loss of control or independence.

Campbell and Cramb (2008) found, in their interviews with people experiencing pain from a range of chronic conditions but predominantly chronic low back pain, that as in our study, there was discontent relating to medication use and a similar general sense of stoicism towards the need to get on and manage the pain whilst avoiding formal healthcare providers. McIntosh and Shaw (2003) found that patients were generally dissatisfied with the information they received from their GPs, especially about diagnosis and treatment, and that they tended to access information from a variety of other sources; this was often contradictory, conflicted with research evidence, and led to unreasonable expectations. These

What is already known about this topic

- Chronic low back pain is prevalent, disabling and consumes considerable healthcare resources.
- Most clinical guidelines suggest that self-management strategies are the best treatment option.

What this paper adds

- Self-management is the recommended intervention for the treatment of chronic low back pain.
- Pain relief medication, exercise and the application of heat were the most effective self-management strategies.
- A combination of personal experience and healthcare professional advice were used in deciding how to manage their condition.

Implications for practice and/or policy

- Nurses needs to acknowledge how people living with chronic low back pain use their own expertise in managing their condition.
- A model of self-management that positions the person's expertise as central could enhance the quality of life of people with chronic low back pain.

patients regarded the lack of diagnostic certainty about the cause of chronic low back pain as associated with GPs' inability to help, assumptions by GPs that they were malingering, and withholding access to treatment. Our interviews with GPs suggested that they were making assumptions about the validity of the description of symptoms. This probably adds to the doubt about medical treatment identified by Padiyar *et al.* (2001), who found that people with back pain determined the threshold at which they would seek healthcare intervention; however, because treatment frequently did not fully alleviate the pain or prevent repeated flare-ups, they were often sceptical about it.

An implication of our findings is that people with chronic low back pain do not use or seem to be aware of other self-management strategies recommended in the literature. The most common barriers to accessing self-management support resources were lack of awareness, physical symptoms, transportation problems and cost. None of the participants in our study identified the use of 'back schools' (education programmes), progressive relaxation, or a multidisciplinary approach that might include cognitive behavioural therapy, massage or hydrotherapy.

Charles *et al.* (1999) proposed a shared decision-making approach that presumes two experts: one who knows best about medicine and the other, who is expert in their own capabilities and preferences, and in the social and environmental supports for (and barriers to) the effective self-management of their disease. Jerant *et al.* (2005) found that depression, weight problems, difficulty exercising, fatigue, poor physician communication, low family support, pain and financial problems were the most frequently noted barriers to active self-management. Creer and Holroyd (2006) have suggested that effective self-management of chronic disorders requires that patients: (1) possess the motivation, confidence and skills to manage their condition; (2) are effective problem-solvers, capable of self-monitoring and adjusting self-management behaviours in response to objective and subjective information; and (3) can successfully adapt self-management strategies to the constraints imposed by unique social and environmental factors in their daily lives. It is perhaps the facilitation of gaining these attributes that could be the focus of advanced nursing practice. This advanced practice role could also involve the sharing of research and clinical guidelines to enable people to make informed decisions about self-management.

As identified by Kralik *et al.* (2004), self-management of chronic illness can be both a structure and a process. Generic approaches to the self-management situate people with chronic conditions as passive recipients of information. Approaches such as the Self-agency Model of Self-Management enable them to engage in a dynamic process that organizes knowledge gained from personal experience and healthcare sources to manage chronic low back pain in the context of their daily lives.

Coster and Norman (2009) found in their review of Cochrane reviews for self-management of chronic conditions that assisting patients to become more knowledgeable about their condition, and providing them with basic skills to manage their condition on a day to day basis can result in physical and psychological patient benefits and in some cases reduce their dependence on service use. Nursing care plays an important role that supplements physiotherapy and GP care by facilitating the knowledge development about chronic low back pain and strategies that may be effective in its management. Seers *et al.* (2006) suggest that the complexity of pain management decision-making is compounded by the subjective nature of pain, the necessary communication between patient and clinician to understand and treat the pain problem, and the dependent relationship promoted by the healthcare system.

Conclusion

The role of nursing care for people with chronic low back pain is to acknowledge its presence as a primary or

co-morbid condition which is potentially very disabling. We can work together with other healthcare professionals to offer a range of strategies for people with this condition. People with chronic low back pain utilize self-management strategies that they have discovered to provide relief and to prevent exacerbation. These strategies enable them to put up with the impact of chronic low back pain and to get on with their lives. The choice of strategy reflects an active process of decision-making that combines personal experience with professional recommendations. Further research is required however into how people with chronic low back pain make decisions about which strategies to use, and if or when they decide take analgesic medication.

Funding

This research received funding from a University of Otago Research Grant.

Conflict of interest

No conflict of interest has been declared by the authors.

Author contributions

LW was responsible for the study conception and design. LW and AP performed the data collection. MC performed the data analysis. MC was responsible for the drafting of the manuscript. MC, LW, MG and DB made critical revisions to the paper for important intellectual content. LW obtained funding. AP provided administrative, technical or material support.

References

Battersby M., Harvey P., Mills P.D., Kalucy E., Pols R.G., Frith P.A., McDonald P., Esterman A., Tsourtos G., Donato R., Pearce R. & McGowan C. (2007) SA HealthPlus: a controlled trial of a statewide application of a generic model of chronic illness care. *Milbank Quarterly* **85**(1), 37–67.

BMJ Publishing Group Ltd. (2009) *What Treatments Work for Long-term Back Pain?* Retrieved from http://www.besttreatments.co.nz/btgeneric/conditions/2000242276.html on 27 June 2009.

Campbell C. & Cramb G. (2008) 'Nobody likes a back bore' – exploring lay perspectives of chronic pain: revealing the hidden voices. *Scandinavian Journal of Caring Sciences* **22**, 383–390.

Carey T., Evans A. & Hadler N. (1995) Care-seeking among individual with chronic low back pain. *Spine* **20**, 312–317.

Charles C., Whalen T. & Gafni A. (1999) What do we mean by partnership in making decisions about treatment. *British Medical Journal* **319**, 780–782.

Coster S. & Norman I. (2009) Cochrane reviews of educational and self-management interventions to guide nursing practice: a review. *International Journal of Nursing Studies* **46**, 508–528.

Cowan D., Fitzpatrick J., Roberts J., While A. & Baldwin J. (2003) The assessment and management of pain among older people in care homes: current status and future directions. *International Journal of Nursing Studies* **40**, 291–298.

Creer T.L. & Holroyd K.A. (2006) Self-management and chronic conditions: the legacy of Sir William Osler. *Chronic Illness* **2**, 7–14.

Davis J. & McVicar A. (2000) Issues in effective pain control 2: from assessment to management. *International Journal of Nursing Studies* **6**, 162–169.

Denzin N. & Lincoln Y. (2005) *Handbook of Qualitative Research*, 3rd edn. Sage Publications, London.

Freburger J., Holmes G., Agans R., Jackman A., Darter J., Wallace A., Castel L., Kalsbeek W. & Carey T. (2009) The rising prevalence of chronic low back pain. *Archives of Internal Medicine* **169**, 251–258.

Graneheim U. & Lundman B. (2004) Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today* **24**, 105–112.

Hancock M.J., Maher C.G., Latimer J., Herbert R.D. & McAuley J.H. (2009) Can rate of recovery be predicted in patients with acute low back pain? Development of a clinical prediction rule. *European Journal of Pain* **13**, 51–55.

Holm S. (2005) Justifying patient self-management – evidence based medicine or the primacy of the first person perspective. *Medicine Health Care Philosophy* **8**, 159–164.

Jerant A., von Friedrichs-Fitzwater M. & Moore M. (2005) Patients' perceived barriers to active self-management of chronic conditions. *Patient Education and Counseling* **57**, 300–307.

Justins D. (1996) Management strategies for chronic pain. *Annals of Rheumatic Disease* **55**, 588–596.

Kendall N., Linton S. & Main C. (1997) *Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain: Risk Factors for Long-Term Disability and Work Loss*. (Oct, 2004 ed.). Accident Compensation Corporation and the New Zealand Guidelines Group, Wellington, New Zealand.

Koch T., Jenkin P. & Kralik D. (2004) Chronic illness self-management: locating the 'self'. *Journal of Advanced Nursing* **48**(5), 484–492.

Kralik D., Koch T., Price K. & Howard N. (2004) Chronic illness self-management: taking action to create order. *Journal of Clinical Nursing* **13**(2), 259–267.

Lansbury G. (2000) Chronic pain management: a qualitative study of elderly people's preferred coping strategies and barriers to management. *Disability and Rehabilitation* **22**, 2–14.

Lorig K.R., Sobel D.S., Stewart A.L., Brown B.W., Ritter P.L., Gonzales V.M., Laurent D.D. & Holman H.R. (1999) Evidence suggesting that a chronic disease self management program can improve health status while reducing utilization and costs: a randomized trial. *Medical Care* **37**, 5–14.

May S. (2007) Patient attitudes and beliefs about back pain and its management after physiotherapy for low back pain. *Physiotherapy Research International* **12**, 126–135.

McIntosh A. & Shaw C. (2003) Barriers to patient information provision in primary care: patinets' and general practitioners' experiences and expectations of information for low back pain. *Health Expectations* **6**, 19–29.

Padiyar A., Pandipati S., Kim T. & Haig A. (2001) An objective review of consumer books about back pain. *Journal of Neuroscience Nursing* **33**, 327–337.

Reid M., Williams C.J.C., Tinetti M. & Gill T.M. (2003) Depressive symptoms as a risk factor for disabling back pain in community-dwelling older persons. *Journal of American Geriatrics Society* **51**, 1710–1717.

Ross M., Carswell A., Hing M., Hollingworth G. & Dalziel W. (2001) Seniors' decision making about pain management. *Journal of Advanced Nursing* **35**, 442–451.

Rubin D. (2007) Epidemiology and risk factors for spine pain. *Neurology Clinics* **25**, 353–371.

Seers K., Watt-Watson J. & Bucknall T. (2006) Challenges of pain management for the 21st century. *Journal of Advanced Nursing* **18**, 4–5.

Van Tulder M., Koes B. & Malmivaara M. (2006) Outcome of non-invasive treatment modalities on back pain: an evidence-based review. *Spine* **15**, 64–81.

Weiner D., Sakamoto S., Perera S. & P B. (2006) Chronic low back pain in older adults: prevalence, reliability and validity of physical examination findings. *Journal of American Geriatrics Society* **54**, 11–20.

Williams A. (2004) Patients with comorbidities: perceptions of care during an acute illness. *Journal of Advanced Nursing* **46**, 13–22.