Mindfulness
DOI 10.1007/s12671-014-0363-6

ORIGINAL PAPER

Using MBCT in a Chronic Pain Setting: A Qualitative Analysis of Participants' Experiences

Kirsty M. Moore · Michelle E. Martin

Abstract An estimated 20 % of the global population experiences chronic pain, and comorbidity with emotional disorders such as depression is high. While the use of mindfulness-based cognitive therapy (MBCT) as an intervention for recurrent depression is escalating in both popularity and evidence-based success, MBCT is being increasingly utilised in a range of areas including chronic pain management. The current study was designed to conceptualise chronic pain patients' perceived benefits of an MBCT programme. Semi-structured interviews were conducted with 17 chronic pain patients who had participated in MBCT group training within a public hospital pain unit between 8 and 50 months previously. The recorded interviews were transcribed and interpreted using thematic analysis to identify key themes in participants' comments. Four overarching themes were extracted: patients' belief in the programme, patients' perception of control, patients' struggles and patients' acceptance of the presence of pain. Participants who perceived benefits from the MBCT programme were most motivated to continue mindfulness practice. Identifying patients' perspectives on their pain and the benefits of ongoing mindfulness practice following participation in an MBCT group intervention provided opportunity to discuss ways to best assist patients in developing and consolidating their practice. Clinical and research implications are discussed.

Keywords MBCT · Mindfulness · Chronic pain · Depression · Mindfulness practice

K. M. Moore (✉)
Department of Psychology, University of Adelaide, Adelaide, SA 5005, Australia
e-mail: kirsty@activepsych.com

M. E. Martin
Pain Management Unit, Royal Adelaide Hospital, Adelaide, SA 5000, Australia

Published online: 07 November 2014

Introduction

Chronic pain is an enormous problem globally, with one in 10 adults diagnosed every year and global prevalence estimated at one in five adults (Goldberg and McGee 2011). Pain that persists or recurs for more than 3 months is termed chronic (International Association for the Study of Pain 2004). In Australia, the Bettering the Evaluation and Care of Health (BEACH) programme found that almost 20 % of general practitioner (GP) consultations related to individuals with chronic pain, and individuals with chronic pain attended their GP five times more frequently than those without the condition (Semple and Hogg 2012). Chronic pain is estimated to cost the Australian economy $34 billion per annum (Access Economics Pty Ltd 2007) and has significant effects on a person's physical and psychological well-being.

Results of an Australian population study by Blyth et al. (2001) were analogous to global data (Goldberg and McGee 2011), with chronic pain reported by 17.1 % of males and 20.0 % of females. Serious consequences including depression, suicidality, unemployment and social relationship strain have resulted from experiencing chronic pain (International Association for the Study of Pain 2004). Conversely, comorbid physical and mental health conditions comprise an important set of contributing factors to the risk of developing chronic pain (Dominick et al. 2012) and, in turn, much poorer health-related quality of life (Linton and Bergbom 2011). Unquestionably, chronic pain and associated prevalent comorbid physical and mental health conditions have costly consequences for the individual, the community, the economy and health care services (Access Economics Pty Ltd 2007).

On a positive note, a more comprehensive view of pain is emerging, resulting in the development of strategies, plans and programmes to address provision of adequate and effective pain management. Specialised hospital pain management units, pain management networks, education and resources and a National

Pain Strategy (NPS) have been developed and resourced nationally and in fact internationally (Cousins 2012).

The use of mindfulness in the chronic pain field has gained momentum since the original programmes run by Jon Kabat-Zinn in the late 1970s. Chronic Pain Australia (www.chronicpainaustralia.org.au), a prominent support organisation, endorses the mindful approach that 'working with your pain instead of fighting against it' is an effective chronic pain management strategy (Chronic Pain Australia 2012). Mindfulness is a form of self-awareness in which an individual focusses their complete attention on the present moment and actively engages in present experiences (Kabat-Zinn 2003). Improved pain tolerance as a result of mindfulness training has been demonstrated in some research, with the main approaches being mindfulness-based stress reduction (MBSR) and acceptance and commitment therapy (ACT; McCracken 1998; Hayes et al. 1999). Morone et al. (2008a) suggested mindfulness meditation based on MBSR may lead to improvement in pain acceptance and physical function after they that found older adults with chronic lower back pain who participated in a mindfulness meditation group significantly improved on the Chronic Pain Acceptance Questionnaire. A study exploring the indirect benefits of an emotion-focussed group on patients with rheumatic diseases which incorporated learning methods intended to enhance awareness found that emotional well-being and coping behaviour were enhanced (Zangi et al. 2011). A recent systematic review and meta-analysis of acceptance-based interventions for the treatment of chronic pain suggested that MBSR and ACT are not superior to cognitive behaviour therapy (CBT) but deemed good alternatives (Veehof et al. 2011).

In the health arena, the use of other specific approaches such as mindfulness-based cognitive therapy (MBCT) has increased in recent years. Research into the benefits of MBCT in areas such as pain, diabetes and cancer has drawn significant interest (Day et al. 2014; Sharplin et al. 2010; van Son et al. 2014). Founded by Segal et al. (2002), MBCT is a psychological therapy blending features of mindfulness techniques with cognitive therapy. Designed as an intervention to prevent recurrent depression, MBCT programmes consist of eight weekly group-based classes with weekly assignments to be done outside of session. The MBCT programme is designed to teach participants to develop awareness of and accept their thoughts and feelings without judgment and to disengage from cognitive distortions. Consequently, participants develop more adaptive ways of dealing with negative experiences to enable them to respond to things rather than react to them. Continued mindfulness practice is recommended following MBCT course completion. Based on the theory of Segal et al. (2002), more positive outcomes should result from higher frequency and duration of mindfulness practice. While Carmody and Baer (2008) found a significant positive relationship between total formal meditation practiced and improvements in symptoms, there remains substantial disparity between what is espoused clinically and what is known empirically about the benefits of ongoing practice compliance (Vettese et al. 2009). Consequently, further qualitative and experimental evaluation on the relationship of homework compliance to mindfulness programme outcomes is warranted to more clearly substantiate the role of ongoing practice.

Qualitative and mixed-method approaches have proven valuable in understanding the potential benefits of MBCT. These approaches allow the elicitation of people's individual experiences and map pertinent research issues (Williams and Moorey 1989). By interviewing participants in an MBCT course, Langdon et al. (2011) sought to understand processes by which people continue practicing mindfulness following an MBCT course and those which contribute to practice decline. They found that a range of factors contributed, including people's beliefs about mindfulness, effort, commitment, group support and possible differences attributed to age. Qualitative content analysis of participant diary entries from participants in an 8-week mindfulness programme also reflected beneficial effects of mindfulness meditation on pain, attention, sleep and achieving well-being (Morone et al. 2008b).

A grounded theory approach was employed by Mason and Hargreaves (2001) to explore the MBCT experiences of seven study participants. Although several themes were identified that may be relevant for preventing depressive relapse (e.g. 'coming to terms', 'warning bells' and 'bringing it into everyday'), the majority of participants were interviewed immediately after course completion, without extended opportunity to utilise their learned skills (Allen et al. 2009; Mason and Hargreaves 2001). Consequently, this study was unable to accurately reflect the longer term effectiveness of MBCT. More recently, Finucane and Mercer (2006) studied MBCT using a mixed-method approach, highlighting participation in a group as a validating experience and emphasising the importance of ongoing support for participants beyond group completion (Finucane and Mercer 2006). Unfortunately, the 3-month post-MBCT completion timeframe for interviews of the 13 participants is also likely to have limited the application of the findings regarding the long-term effectiveness of MBCT.

In an interpretative phenomenological analysis, Williams et al. (2011) used semi-structured interviews 3 months post-treatment to explore patients' experiences of MBCT for hypochondriasis and their subsequent self-managed practice. Of relevance, patients reported awareness of barriers to experiencing change, including motivation and ability to maintain ongoing practice. Participants in studies by Mason and Hargreaves (2001) and Finucane and Mercer (2006) also reported that their mindfulness skills developed following completion of the MBCT programme. Whilst these studies contributed much to our understanding, in each case, the follow-up interviews were held only 3 months after completion of the MBCT programme, therefore not providing the

opportunity for longer term effects to be explored. Allen et al. (2009) used a longer 12-month timeframe to follow up participants (n=20) and explore their experience of MBCT and its value as a relapse prevention programme for recurrent depression, identifying control, acceptance, relationships and struggle as four overarching themes.

To date, evidence suggests that mindfulness may have a role to play in managing patients experiencing chronic pain (e.g. Chiesa and Serretti 2010; Elabd 2011; Kingston et al. 2007; Morone et al. 2008a). Various programmes have been used in the pain field including MBSR and ACT, and formats such as MBCT have drawn interest in recent times. MBCT is taught in a group programme integrating mindfulness skills, placing emphasis on the cognitive understanding and framework of experiences. Given that pain catastrophising has been identified as a cognitive pain variable related to psychological distress (Severeijns et al. 2001), and the strong evidence base for CBT in managing emotional difficulties, if effective and acceptable to patients, potential advantages of incorporating MBCT in chronic pain management are worthy of further investigation.

This exploratory pilot study endeavoured to understand the experiences of chronic pain patients in an MBCT group and the factors that contribute to enabling or blocking ongoing mindfulness practice. A qualitative approach was adopted utilising data from structured interviews conducted 8 to 50 months after completion of the course. Factors that assist and/or hinder chronic pain patients to continue mindfulness practice following participation in the group were also explored with a view to understanding ways to assist patients in developing and consolidating their practice.

Method

Participants

The MBCT programme was implemented in a South Australian public hospital pain unit in a series of consecutive small groups, spanning a 2-year period. Participants with a history of chronic pain and engaged with that unit were invited to participate in the MBCT programme. Predominantly, patients with emotional difficulties such as depression, anxiety disorders or stress-related conditions were invited. The intervention was led by a trained MBCT facilitator (a qualified senior clinical psychologist from the hospital and clinical lecturer) and followed the manualised programme described by Segal et al. (2002).

Procedure

An information sheet outlining the study was sent to all MBCT programme participants (n=40) on the hospital pain unit database. Although this exploratory pilot study focussed on participants' qualitative feedback, it was intended as part of a larger study incorporating quantitative data collected at various times following the MBCT intervention. Those participants who responded expressing their interest in participating in this qualitative study were contacted by telephone, and a date and time to meet were arranged. Forty-three per cent (n=17) of MBCT group participants agreed to participate in an interview held at the unit. One to one interviews were conducted over a 5-week period. Participants ranged in age from 34 to 79 years with a mean age of 54.6 years. The majority (82 %) of participants were female. Both written and oral information was provided, and informed consent was obtained from all participants before they entered the study, including consent to record interviews. The study aimed to be 'clinically representative', so no inclusion/exclusion criteria were enforced. Ethical approval for the study was attained through the Hospital Research Ethics Committee and the University Human Research Ethics Committee (HREC).

Measures

Semi-structured interviews were conducted in the hospital pain unit by one researcher between 8 and 50 months after participants had completed the MBCT programme. Participants were initially asked general questions enquiring about their journey to join the MBCT programme such as, 'What is your story of how and why you were introduced to the MBCT program?' They were then invited to answer more specific questions regarding their participation, expectations, perceived benefits and continued practice, for example, 'What do you notice when you do not practice mindfulness, formally or informally?' and 'How do you think you have changed over time in your ability to cope with your pain? Do you believe mindfulness has contributed to any changes?'

The interviewer had minimal knowledge of the MBCT programme and had not facilitated any of these groups. MBCT group facilitators did not participate in the interviews in any way. Although interviews were highly structured, the interviewer was responsive to issues as they arose using reflective listening techniques (Stiles 1993) and aimed to allow participants' views to be comprehensively explored. Interviews lasted between 22 and 65 min (mean 38 min) and were audio-recorded, then transcribed verbatim. The audio interviews were checked against the transcripts to ensure accuracy. All data were de-identified to ensure confidentiality.

Data Analysis

Key themes were identified and defined using thematic and comparative analysis methodology (Braun and Clarke 2006). A realist methodological approach sought to examine the semantic content of participants' descriptions of their experiences following participation in the MBCT group.

Using the qualitative software package NVivo 9, the transcripts were independently coded by two researchers. Themes were identified or coded on the basis of the capacity for specific thoughts or observations to 'capture something important in relation to the overall research question' (Braun and Clarke 2006, p. 82). Subsequent merging or differentiation of themes allowed a hierarchical structure of overarching themes and sub-themes to emerge, grounded in the verbatim transcript data. As a final step, themes were considered in the context of how consistently and articulately they represented the complete data set and modified accordingly as required (Braun and Clarke 2006). A rich description of the data was extracted using thematic analysis to extend our understanding of patient experiences beyond individual reflections. The credibility of the findings was checked by comparing two researchers' separate analyses of the transcripts in an effort to cross-validate the emergent hierarchical theme structure. There was approximately 85 % agreement between the two raters. Where there was disagreement, the raters discussed the coding until a consensus was reached. A number of themes emerged from this process.

Results

Of the 17 MBCT participants interviewed, 15 said that they maintained ongoing informal mindfulness practice. Of these, nine said that their ongoing practice included a formal mindfulness practice component. One of the remaining two participants indicated that he infrequently utilised mindfulness practice, and the other said that he did not engage in any ongoing practice. In analysis of the interview transcript data, four overarching themes were identified with regard to ongoing mindfulness practice for chronic pain patients. These were 'patients' beliefs in the programme', 'patients' perception of control', 'patients' struggles' and 'patients' acceptance of the presence of pain'. Narrative accounts and examples of each theme in the data are provided.

Patients' Belief in the Programme

This overarching theme describes participants' perceptions of and beliefs in the effectiveness of MBCT as an intervention for chronic pain. It also considers the contribution their attitudinal stance and broader faith was perceived to have on their successes and/or difficulties in maintaining mindfulness practice in managing chronic pain. One participant summarised the impact of belief, 'If you believe in it, it really does work.' Two themes were identified under the overarching theme.

Motivation to Continue Practice (perceived benefits/costs) Participants described the positive benefits that they had achieved following the MBCT course and ongoing mindfulness practice as a strong motivator to continue practice. For example,

> 'It has improved my life.'
> It (mindfulness) 'gives the person a reason for being'.
> 'I gauge success by how much you've done in a day and I find if I meditate and remain focussed with mindfulness that I actually give a lot more. And that's self-satisfying for me.'

Participants' beliefs in the benefits of MBCT were also reflected by comments highlighting reduced pain or unpleasant experiences as a result of ongoing practice, for example, 'If I don't do it, I feel more stressed and I feel more pain'. Relapse to returning pain and emotional difficulties was attributed to cessation of ongoing practice, for example, 'Slowly it just gradually petered out and I found myself back to my old self of depression and all that and finding it hard to get out of it. And then pain crept in more and I just couldn't control it'.

Supporting the significance of belief in the benefits of ongoing participation, one participant shared his explanation for ceasing participation in booster MBCT groups and ongoing practice, 'I felt I probably got all I could get from them so I didn't participate any more with them'.

Attitude Many participants' responses indicated their belief that a positive attitude towards ongoing mindfulness practice was imperative to maintaining their practice. For example, 'There's something with my patience. With my being positive, just my outlook on life—did I say self-esteem? (And) my attitude' and 'I've got lots of beliefs that what you think about kind of grows, so if you constantly think about how bad something is, then it usually ends up being worse than what it is. So I suppose having positive thought to mindfulness is probably really helpful'.

An attitude of willingness, reinforced by an attitude of persistence and determined, disciplined commitment, was highlighted as beneficial to achieve pain management effectively using MBCT and ongoing practice. For example, 'I was not willing to give up on me, and life' and 'I'm determined to keep going and I think discipline with how often you do it is the key'.

Patients' Perception of Control

As an overarching theme, this encompasses the extent to which participants feel empowered to take control of their own behaviours and responses.

Acquiring and Developing Tools In many interviews, participants referred to the practical skills that they had practised and acquired through the MBCT course as 'tools'. 'It's

another tool in the box.' Feeling equipped with a broader selection of coping skills, they reported increased confidence in their ability to manage or control their pain. For example,

> 'gives me a sense of some control… given me a tool, a skill, to be able to deal with things that are normally too uncomfortable or too frightening for me to deal with.'

The increased sense of control provided by the ability to choose how to manage pain was emphasised by participants who acknowledged that they felt increased autonomy, for example,

> 'It's like gathering a toolbox, and suddenly having a new set of tools or more tools… there's some fallen at the bottom of the box but some you use more often.'

Choosing to Take Action Again highlighting the empowerment provided by expanding participants' perception of their pain, participants reflected that MBCT had taught them that they could make choices to take control of decisions and actions for their pain management.

> 'It's not necessarily what happens in your life but how you deal with it…you've got the ability to control how you respond to things.'

The actions taken by participants in response to their pain or early warning signs were varied, highlighting again the usefulness of a 'toolbox' of available strategies. Ongoing regular use of the mindfulness CDs provided in the course had proven helpful for some participants, imagery was helpful for others, mindful focus on the breath was named by the majority of participants, and attentional focus on sounds or nature was also useful for a number of participants. All of the actions described were intentional, focussed responses, again drawing attention to the power of deliberate choice in self-management of pain using MBCT strategies.

Simply stated, 'Being in the present is the most important thing I've got out of the group'. Another participant realised the 'sense' of control that they had regained through MBCT, 'It's one thing that can't be taken from me'. Ongoing disciplined practice was indicated as helpful in gaining greater control of one's focus, 'What was interesting for me was that ability to control your mind when you practised. So that if I set aside that half an hour I could with a bit of effort and will make my mind stay where I wanted it to'.

For most participants, taking an active role in choosing to take action was a vital teaching of the MBCT programme. 'You just need to keep doing stuff. To get up out of bed, to have somewhere to go, to do something, to enjoy the company, to engage—that's what these courses are very important for.'

Change in Perspective Having gained skills to empower them to shift attentional focus, participants also highlighted their discovery of new perspectives on how they viewed themselves and their own pain, for example,

> 'If I'm concentrating on my breathing, I'm concentrating on that and not so much on the stress that's causing me to get worked up.'

Many spoke of no longer feeling like they were the only one suffering, as they broadened their focus and recognised the experiences and views of others. For example, 'There's always somebody worse off than you. And I know there is. And that keeps me going too'.

Recognising and acknowledging the benefits of viewing their pain experience differently were illustrated by participants. For example, 'It's an alternative to letting the pain get the upper hand. I don't think you can control the pain but you control the relationship to your pain. And that in turn influences your experience of it'.

Patients' Struggles

This overarching theme describes a variety of stumbling blocks, predominantly mentally, that participants faced in their MBCT experiences. They described dissonance and friction created by the inflated expectation that they would achieve pain control compounded by overexertion in trying to achieve this outcome. Conflicting time pressures were also highlighted, as were the multitude of comorbid conditions commonly faced by chronic pain patients.

Different Expectations Participants expressed mental conflict created by their attempts not to think about pain paradoxically increasing their focus on the pain, for example, 'I'd go, "well, I don't want to think about it, I'm trying not to, but now I'm thinking about not thinking about that thing"'. Similarly, they spoke of their initial high expectations of the MBCT programme for their pain, subsequent anxiety and their difficulty accepting the limitations of MBCT. For example, 'I'm fighting the whole time because my belief was that eventually you would find the answer to my back pain and fix it' and 'It is hard, especially at the beginning. I think the deterrent in the whole thing is the expectation and trying too hard'.

Conflicting Demands Difficulty in making time to practice was commonly reported. Participants struggled to prioritise time to practice ahead of competing demands, for example,

> 'I would like to start doing it more, but at the time I had three little ones.'

> 'I found it very difficult to do it because of what was going on in my life at the time.'

Comorbid Conditions A wide range of comorbid conditions were indicated in addition to the presenting chronic pain. Many participants referred to ongoing depression or depressive symptomatology. 'I should come to the group sessions because then it would be better for me. I know all that, but you know, I just think sometimes depression gets the better of me I'm afraid. And it's really hard to get over it.'

Other comorbid conditions mentioned included eating disorders, grief and loss, anxiety, stress, domestic violence, drug and/or alcohol misuse, diabetes, post-polio syndrome and general psychological issues. The relevance and impact of these comorbid issues were stated by some clients, with one participant referring to, 'a heart pain, an ache inside, grief, something they carry that they can't put in a sling'. She also observed that, 'Most people are trying to manage their own pain. Not just physical pain, but their own human pain'.

Patients' Acceptance of the Presence of Pain

This overarching theme captures the processes that enable chronic pain patients to allow pain, both emotional and physical, to coexist with them, accepting its presence without resistance.

> 'It's sort of like saying "yes" to your situation rather than kicking and fighting it. Accepting it.'

Acceptance Participants embracing an attitude of acceptance reported reduced distress and claimed to be able to 'let the bad things go'. For example, 'I may not be able to get rid of the pain, but at least I can let go of the anger that I have it, or dislike that I have for it'. Another participant recollected the pivotal moment when she moved to an accepting stance, recalling, 'and the minute I let go of the anger, that was the time I started to grow, so yeah, that was a big moment in my life'. Describing it in a way similar to being granted permission to let go, participants said that they were freer to move forward from full immersion in their pain experiences when they had grasped the attitude of acceptance. For example, 'And along you come to the pain clinic so you learn and you've got to make some changes, making changes is what it's all about, and you can't do anything except move on from where you were…You have to accept what's happening right now, not necessarily forget it, but just, okay, that's happened, this is now, and we move on'. This complete acceptance was encapsulated by the comment of one participant, 'It just is what it is. You just accept it and move on'. Not surprisingly, not all participants had reached this point, with a minority still unwilling to adopt this stance, for example, 'I would like someone to make a magic pill to make my pain go away'.

Discussion

Over recent years, an increasing body of evidence has accumulated indicating that mindful meditation assists in improving psychological well-being and can help to relieve symptoms associated with chronic pain (Elabd 2011). Given the high prevalence of chronic pain in the global population (Goldberg and McGee 2011) and the high comorbidity of chronic pain with depression (Arnow et al. 2006), further exploration of the potential of mindfulness therapies such as MBCT for chronic pain patients with associated emotional difficulties is well justified. Designed to aid in the prevention of depressive relapse (Piet and Hougaard 2011), and with early research suggesting benefits for reducing chronic pain symptoms (Veehof et al. 2011), the structured MBCT programme has already shown great potential (Kranz et al. 2010; Schütze et al. 2010).

This study highlighted aspects of chronic pain patients' perceived benefits of participation in an MBCT programme. Several themed factors appeared to influence participants' engagement and commitment to ongoing mindfulness practice following participation in MBCT. These included their *belief* in the effectiveness of MBCT as an intervention for chronic pain; the extent of participants' perceived *control* over their pain management; mental, emotional and practical s*truggle*s between conflicting thoughts and time demands and participants' *acceptance* of the presence of pain without active resistance. These themes align with themes identified in previous qualitative MBCT studies, particularly the themes of acceptance (Finucane and Mercer 2006; Mason and Hargreaves 2001), struggle and control (Allen et al. 2009). Acceptance and control were central to participants' accounts of what assisted them to maintain mindfulness practice. The concept of a toolbox of strategies that were accessible anytime was repeatedly mentioned as part of discussions highlighting increased ability to cope linked with increased sense of control. By learning skills and making changes, participants maintained a sense of hope and continued ongoing practice.

Pivotal to maintaining acceptance and control, participants' beliefs regarding the perceived benefits of ongoing practice were paramount. Not surprisingly, participants attributing positive benefits to MBCT were strongly motivated to continue practice. This relates strongly to previous research indicating a correlation between consistent practice and improvements in psychological well-being (Finucane and Mercer 2006). Conversely, participants were motivated to continue mindfulness practice by the negative effects that they believed would arise if practice was not maintained. Only two of the 17 chronic pain patients interviewed reported rare or no ongoing mindfulness practice. One participant who believed that there was no more to be gained chose not to continue with booster sessions or formal ongoing practice. Conflicting demands resulted in a struggle for most participants to set aside time to regularly

engage in practice, despite most claiming that it was beneficial. Children, family, work and comorbid conditions were all cited as factors that hindered ongoing practice. Ultimately, though, it seemed an ongoing struggle to accept that the presence of pain created the greatest obstruction to engaging in continued mindfulness practice. Given this finding, further exploration of the cognitive and emotional difficulties arising from such a struggle is fundamental in understanding such experiences, particularly as it relates to the potential presence of pain catastrophising. As a phenomenon, pain catastrophising is generally characterised by feelings of helplessness, active rumination and excessive magnification of cognition and feelings, creating further psychological distress (Severeijns et al. 2001). How then would mindfulness, as taught within an MBCT format, influence pain catastrophising?

Further research to empirically investigate the benefits of booster sessions to consolidate learning and renew motivation is recommended. Similar findings were reported by Finucane and Mercer (2006), highlighting the importance of ongoing support to counteract obstacles to continued mindfulness practice. A review of the frequency and accessibility of booster sessions should be undertaken, with further exploration of participants' reflections on the format and content of such sessions, and the importance of these with respect to longer term effectiveness of MBCT in this population. As Allen et al. (2009) identified, the ability of therapists to better understand what creates struggle for their clients and what is helpful is likely to enhance therapeutic benefits of intervention. Exploration of specific issues relative to chronic pain, e.g. changes to medication and exacerbations in pain, would also be worthy of further examination with respect to the impact on continued mindfulness practice, as these factors are likely to significantly reduce the capacity to focus on such techniques.

The findings of this exploratory study should be interpreted in the context of the sample, representing a group of chronic pain patients referred to a public hospital pain unit invited to participate in an MBCT programme as part of multidisciplinary chronic pain management. It is possible that the results of this study may reflect either the benefit of long-term ongoing practice or the effect of participants reflecting on their MBCT experience. The results should also be interpreted with caution given the selection bias inherent in such clinical research. Although this study has several areas for possible improvement, including larger sample size, integration of appropriate quantitative assessment tools and greater exploration into the mechanisms of MBCT in a chronic pain population, it is helpful in highlighting participants' experiences and providing guidance for future research.

In summary, this study certainly raises more questions than it answers. Given the apparent benefit of ongoing mindfulness practice with group support, what is an appropriate frequency for booster programmes to be organised? Does participation in booster groups, or even meeting with staff at the pain unit, reduce pain catastrophising? What impact does MBCT have on pain catastrophising and other cognitive processes? And, how does mindfulness potentially act as a moderating factor between acceptance of pain and pain catastrophising? In this exploratory study, participants' qualitative feedback indicated ongoing benefit in running MBCT groups for chronic pain patients. Given how much is still uncertain about the mechanisms of MBCT, if group-based MBCT interventions are to continue, further research is warranted. For the meantime, if, as one participant reflected, participation in an MBCT group programme 'gives the person a reason for being', there may already be evidence enough for programmes to continue in the interim.

Acknowledgments A scholarship awarded by the Nursing and Allied Health Scholarship and Support Scheme (NAHSSS), funded by the Australian Federal Government Department of Health and Ageing, supported this work. Views in this paper do not necessarily represent those of the NAHSSS, its Administrator, Services for Australian Rural and Remote Allied Health (SARRAH) and/or the Australian Government Department of Health and Ageing.

References

Access Economics Pty Ltd. (2007). The high price of pain: the economic impact of persistent pain in Australia in 2007. MBF Foundation. http://www.bupa.com.au/staticfiles/BupaP3/Health%20and%20Wellness/MediaFiles/PDFs/MBF_Foundation_the_price_of_pain.pdf. Accessed 7 June 2012.

Allen, M., Bromley, A., Kuyken, W., & Sonnenberg, S. J. (2009). Participants' experiences of mindfulness-based cognitive therapy: "It changed me in just about every way possible". *Behavioural and Cognitive Psychotherapy, 37*, 413–430.

Arnow, B. A., Hunkeler, E. M., Blasey, C. M., Lee, J., Constantino, M. J., Fireman, B., et al. (2006). Comorbid depression, chronic pain, and disability in primary care. *Psychosomatic Medicine, 68*(2), 262–268.

Blyth, F. M., March, L. M., Brnabic, A. J., Jorm, L. R., Williamson, M., & Cousins, M. J. (2001). Chronic pain in Australia: a prevalence study. *Pain, 89*, 127–134.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77–101.

Carmody, J., & Baer, R. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness based stress reduction program. *Journal of Behavioral Medicine, 31*, 23–33.

Chiesa, A., & Serretti, A. (2010). A systematic review of neurobiological and clinical features of mindfulness meditations. *Psychological Medicine, 40*, 1239–1252.

Chronic Pain Australia. (2012). Managing my pain [Fact sheet]. http://chronicpainaustralia.org.au/index.php?option=com_content&view=article&id=30&Itemid=232. Accessed 17 March 2012

Cousins, M. J. (2012). Unrelieved pain: a major health care priority. *Medical Journal of Australia, 196*(6), 373–374.

Day, M. A., Thorn, B. E., Ward, L. C., Rubin, N., Hickman, S. D., Scogin, F., & Kilgo, G. R. (2014). Mindfulness-based cognitive therapy for the treatment of headache pain: a pilot study. *The Clinical Journal of Pain, 30*(2), 152–161.

Dominick, C. H., Blyth, F. M., & Nicholas, M. K. (2012). Unpacking the burden: understanding the relationships between chronic pain and comorbidity in the general population. *Pain, 153*(2), 293–304.

Elabd, S. (2011). Mindful meditation for chronic pain sufferers may have positive effect. *Topics in Pain Management, 27*(4), 9.

Finucane, A., & Mercer, S. W. (2006). An exploratory mixed methods study of the acceptability and effectiveness of mindfulness-based cognitive therapy for patients with active depression and anxiety in primary care. *British Medical Council Psychiatry, 6*, 1–14.

Goldberg, D. S., & McGee, S. (2011). Pain as a global public health priority. *British Medical Council Public Health, 11*, 770–774.

Hayes, S. C., Bissett, R. C., Korn, Z., Zettle, R., Rosenfarb, I., Cooper, I., & Grundt, A. (1999). The impact of acceptance versus control rationales on pain tolerance. *Psychological Record, 49*, 33–47.

International Association for the Study of Pain (2004). Unrelieved pain is a major global healthcare problem. http://www.iasp-pain.org/AM/Template.cfm?Section=Home&Template=/CM/ContentDisplay.cfm&ContentID=2908. Accessed 10 May 2012.

Kabat-Zinn, J. (2003). Mindfulness-based intervention in context: past, present, and future. *Clinical Psychology: Science and Practice, 10*, 144–156.

Kingston, J., Chadwick, P., Meron, D., & Skinner, T. C. (2007). A pilot randomized control trial investigating the effect of mindfulness practice on pain tolerance, psychological well-being, and physiological activity. *Journal of Psychosomatic Research, 62*, 297–300.

Kranz, D., Bollinger, A., & Nilges, P. (2010). Chronic pain acceptance and affective well-being: a coping perspective. *European Journal of Pain, 14*, 1021–1025.

Langdon, S., Jones, F. W., Hutton, J., & Holttum, S. (2011). A grounded-theory study of mindfulness practice following mindfulness-based cognitive therapy. *Mindfulness, 2*, 270–281.

Linton, S. J., & Bergbom, S. (2011). Understanding the link between depression and pain. *Scandinavian Journal of Pain, 2*, 47–54.

Mason, O., & Hargreaves, I. (2001). A qualitative study of mindfulness-based cognitive therapy for depression. *The British Journal of Medical Psychology, 74*, 197–212.

McCracken, L. (1998). Learning to live with pain: acceptance of pain predicts adjustment in persons with chronic pain. *Pain, 74*, 21–27.

Morone, N. E., Greco, C. M., & Weiner, D. K. (2008a). Mindfulness meditation for the treatment of chronic lower back pain in older adults: a randomized controlled pilot study. *Pain, 134*, 310–319.

Morone, N. E., Lynch, C. S., Greco, C. M., Tindle, M. D., & Weiner, D. K. (2008b). "I felt like a new person." the effects of mindfulness meditation on older adults with chronic pain: qualitative narrative analysis of diary entries. *The Journal of Pain, 9*(9), 841–848.

Piet, J., & Hougaard, E. (2011). The effect of mindfulness-based cognitive therapy for prevention of relapse in recurrent major depressive disorder: a systematic review and meta-analysis. *Clinical Psychology Review, 31*(6), 1032–1040.

Schütze, R., Rees, C., Preece, M., & Schütze, M. (2010). Low mindfulness predicts pain catastrophizing in a fear-avoidance model of chronic pain. *Pain, 148*, 120–127.

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.

Semple, T. J., & Hogg, M. N. (2012). Waiting in pain. *The Medical Journal of Australia, 196*(6), 372–373.

Severeijns, R., Vlaeyen, J. W. S., van den Hout, M. A., & Weber, W. E. J. (2001). Pain catastrophizing predicts pain intensity, disability, and psychological distress independent of the level of physical impairment. *The Clinical Journal of Pain, 17*, 165–172.

Sharplin, G. R., Jones, S. B. W., Hancock, B., Knott, V. E., Bowden, J. A., & Whitford, H. S. (2010). Mindfulness-based cognitive therapy: an efficacious community-based group intervention for depression and anxiety in a sample of cancer patients. *The Medical Journal of Australia, 193*(5), 79.

Stiles, W. B. (1993). Quality and control in qualitative research. *Clinical Psychology Review, 13*, 593–618.

van Son, J., Nyklicek, I., Pop, V. J., Blonk, M. C., Erdstieck, R. J., & Pouwer, F. (2014). Mindfulness-based cognitive therapy for people with diabetes and emotional problems: long-term follow-up findings from the DiaMind randomized controlled trial. *Journal of Psychosomatic Research, 77*(1), 81–84.

Veehof, M. M., Oskam, M., Schreurs, K. M. G., & Bohlmeijer, E. T. (2011). Acceptance-based interventions for the treatment of chronic pain: a systematic review and meta-analysis. *Pain, 152*, 533–542.

Vettese, L. C., Toneatto, T., Stea, J. N., Nguyen, L., & Wang, J. J. (2009). Do mindfulness meditation participants do their homework? And does it make a difference? A review of the empirical evidence. *Journal of Cognitive Psychotherapy: An International Quarterly, 23*(3), 198–225.

Williams, J. M. G., & Moorey, S. (1989). The wider applications of cognitive therapy: the end of the beginning. In J. Scott, J. M. G. Williams, & A. T. Beck (Eds.), *Cognitive therapy in clinical practice: an illustrated casebook* (pp. 97–112). London: Routledge.

Williams, M. J., McManus, F., Muse, K., & Williams, M. G. (2011). Mindfulness-based cognitive therapy for severe health anxiety (hypochondriasis): an interpretative phenomenological analysis of patients' experiences. *British Journal of Clinical Psychology, 50*, 379–397.

Zangi, H. A., Hauge, M., Steen, E., Finset, A., & Hagen, K. B. (2011). I am not only a disease, I am so much more patients with rheumatic diseases' experiences of an emotion-focused group intervention. *Patient Education and Counselling*. doi:10.1016/j.pec.2010.12.032.