Mindful Movement Program in a Tertiary Pain Service: A Feasibility Protocol

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Introduction

Support for cognitive-behavioural (CBT) based interventions in the management of persistent pain is well-established. More recently, the literature has examined the role of mindfulness-based interventions for pain management in health care settings. While not superior to CBT approaches, recent meta-analyses suggest these interventions offer good alternatives[1]. This presents additional opportunities for evidence-based, multidisciplinary group programs[2,3].

This protocol investigates the feasibility and efficacy of a low intensity, mindfulness-based intervention in a tertiary pain management service. Rather than traditional CBT-based programs offered at moderate to high intensities, a gap in the service exists for low intensity programs in a hospital setting. This offers a flexible, accessible model of service delivery that fits with the approach of targeting programs for specific patient need.

Aim

- To examine the feasibility of implementing a low intensity, mindful movement program in a tertiary pain service.
- To use outcome data to improve service delivery and quality assurance.
- To provide a research base that can identify opportunities for improved practice.

Methods

Participants were triaged at a multidisciplinary meeting following an allied health or medical assessment. Inclusion criteria required participants to be 18 – 65 years, able to understand instructions in English, and living with persistent pain for at least six months. Exclusion criteria included active substance misuse, recent spinal pathology/surgery, or unmanaged psychiatric conditions with functional effect.

Following an introduction session covering pain education, the role of mindfulness in pain, and goal setting for the program, participants attended:

- 4 x 1 hr psychology-led mindfulness and attention management sessions[4];
- 4 x 1 hr Tai Chi sessions;
- 4 x 1 hr physiotherapy-led somatic mindful movement sessions.

Using a mixed methods approach, a repeated-measures design quantitatively tested for clinically significant changes, while a qualitative survey assessed patient satisfaction, feasibility and experience. Participants completed a pain service questionnaire battery including demographic information, the BPI, DASS-21, PSEQ, and PCS. Clinical significance was assessed following the Electronic Persistent Pain Outcome Collaboration guidelines. For the BPI, only moderately (30%) and substantially (50%) important change was considered as clinically significant. A survey assessed program satisfaction with Likert-scale responses and evaluated patients' perception of the sessions for future refinement.

Paired-sample t-tests were planned to test for significant improvement post program. However, sample size resulted in insufficient statistical power to perform these analyses.

Participant Characteristics

Participants were aged between 24 – 58 years (M = 43.9, SD = 9.94), with 57% female, and a heterogeneous pain group, with the most frequently reported primary pain sites being the low back (n=5) and abdomen (n=4). Of those who completed the program (N=26), n = 17 gave their consent to participate in this research project and n=14 provided complete questionnaire data. Patients who elected not to participate typically identified survey fatigue or questionnaire length as barriers to completion.

As expected in a tertiary pain service, the patient cohort reflected complex presentations including multiple comorbidities, longstanding pain, and previous treatment 'failure' in community and tertiary settings.

Results

Analysis revealed that 7 of 14 participants (50%) showed a clinically significant improvement in at least one area measured by the questionnaire. Findings indicated n=4 patients achieved moderate to substantial changes in their average pain levels post-program. Clinically significant improvements were observed in pain catastrophising (n=3) and pain self efficacy (n=3) post-program.

In terms of participation, 85% of patients completed the program; 4 participants withdrew during the program. On average, program completers attended 80% of sessions.

As displayed in Figure 1 and Figure 2, satisfaction with the program was high, with psychology and movement aspects perceived as beneficial. Participants drew on the information 3.9 times per week (SD = 2.24, Range = 1 – 7.5) and 92% indicated that the group has influenced how they move in other areas of life, not just when exercising.

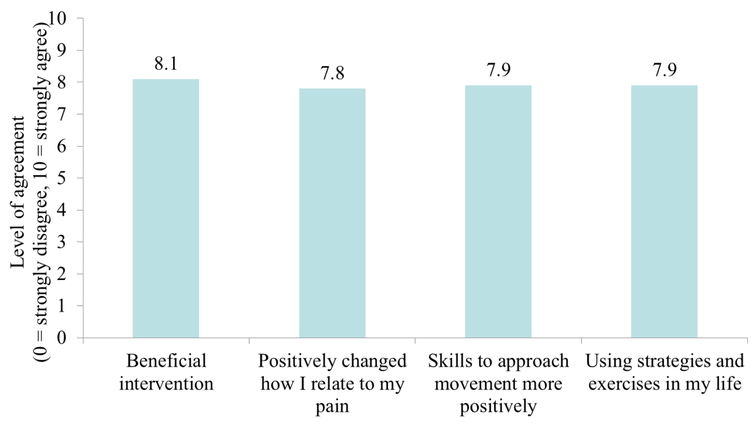

Figure 1. Movement Sessions: Patient Satisfaction and Strategy Integration (n = 16)

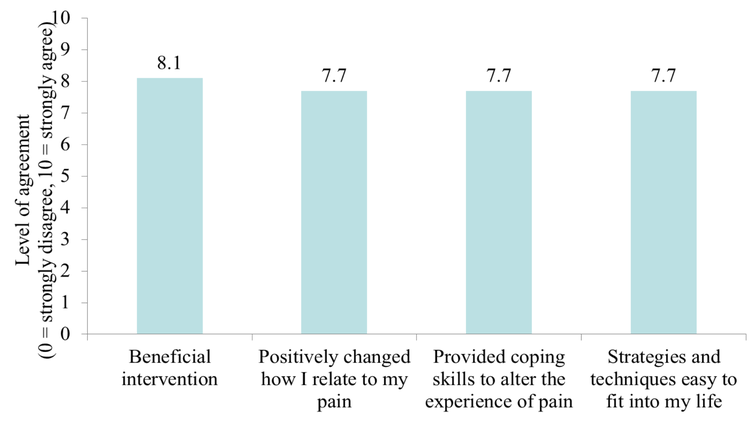

Figure 2. Psychology Sessions: Patient Satisfaction and Strategy Integration (n = 17)

Qualitative feedback regarding the program suggested the benefit of integrating body-mind approaches to explore new ways of conceptualising pain and movement, coupled with opportunities to take effective action:

- *P2 "I learned that adding mindfulness reduces physical effort for the same outcome."*
- *P13 "The main thing is that I am not alone in my struggle. The mind can change how I feel."*
- *P5 "I have previously thought that because of my pain it limits my activity. I'm now more comfortable in my body with pain."*
- *P3 "It's improved my overall sense of wellbeing, sense of hopelessness, participation in the community and reduced stress. I have more tools now to deal with pain. I have felt so supported in this environment."*

Discussion

A multidisciplinary mindfulness-based therapy approach is feasible in a tertiary pain setting. This offers an alternative treatment modality for patients than more intensive cognitive-behavioural approaches. The high participation rates observed across this feasibility study are consistent with patient reports of a beneficial intervention that was readily integrated into their lives. Patients reported benefit including increased coping skills to alter their experience of pain and taking effective action through the movement modules. From a service delivery perspective, the program was time-effective for clinicians, and patients were able to be seen more quickly and frequently than individual appointments would allow.

This pilot study suggests that delivering a brief, multidisciplinary mind-body pain program in a tertiary healthcare setting can result in positive changes for patients, many of whom presented with complex and longstanding pain conditions. Qualitative feedback highlighted the reconceptualisation that took place during the program for some patients and clinically significant improvements in pain symptoms were observed.

Limitations of this work include the lack of control group, and survey fatigue preventing data being collected from some participants. Future work is required with longer follow-up time periods. Based on learnings from this study, we hope to maximise the feasibility of this intervention and incorporate an active control group into future work . A key consideration for future research is the inclusion of 'flourishing' measures such as those that assess personal growth or trait mindfulness. This would reflect the selection of measures that are more aligned with the treatment approach.

Conclusion

Delivering a brief, multidisciplinary mind-body pain program in a tertiary healthcare setting is feasible and can result in positive changes for patients.

References

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[3] Schütze, et al. (2014). *Front Psychol., 5 (839)*
[4] Elomaa et al. (2009). *EJP, 13 (10)*