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Introducing a Physical Therapist-Led Acceptance and Commitment Therapy Training for Pain: A Clinical Perspective

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Introducing a Physical Therapist-Led Acceptance and Commitment Therapy Training for Pain: A Clinical Perspective

Abstract

Purpose: Mounting evidence supports the use of cognitive and behavioral techniques as part of physical therapist practice. These methods are used within a physical therapist's multimodal treatment approach for the management of pain and to facilitate health behavior change. There is a multitude of evidence-based cognitive behavioral techniques to choose from including newer approaches based on Acceptance and Commitment Therapy. Yet few studies have examined physical therapists' perceptions to learning and implementing ACT into clinical practice. The purpose of this manuscript is to present a clinical perspective of physical therapists learning about and incorporating Acceptance and Commitment Therapy in clinical practice. **Methods:** An 8-week online physical therapist-led ACT for chronic pain training was completed by 65 physical therapists. A post-training evaluation was developed and then scored by 46 participants. The evaluation included 15-questions with regard to the self-reported perceptions of learning foundational ACT skills necessary to implement into physical therapy practice, a deeper understanding of psychological factors involved in musculoskeletal pain, confidence in managing musculoskeletal pain, utility in physical therapist practice, and the recognition of a new or different approach to treating musculoskeletal pain. **Results:** Participants' self-reported perceptions were highly positive with 73% reporting the training furthered their understanding of psychological factors in chronic musculoskeletal pain and 100% reported learning the foundational ACT skills necessary to implement it into physical therapy practice. In addition, 7 sub-themes regarding the ACT training emerged from a qualitative content analysis and included the following: 1) The training filled a knowledge gap in understanding of how to assess and treat psychological factors related to pain, 2) A mixture of prerecorded video training, reading, experiential exercises, and self-reflection via the ACTPTE were critical to reinforce learning, 3) Coaching and supervision calls were a useful part of the training and helped to translate course knowledge and implement into clinical practice, 4) Having an opportunity to practice in a group setting with like-minded peers was a critical component of confidence building, 5) Ongoing communication, networking, and mentorship via the online forum and coaching calls allowed participants to complete the course material on-time, stay connected, and share stories and experiences about implementing the material in practice, 6) The ACT stance of not changing pain or related psychological content (example: not changing thoughts, pain related beliefs, reconceptualizing pain) may run counter to other psychologically-informed approaches found in physical therapy practice and took some time for practitioners to process and integrate, 7) Some practitioners expressed that ACT helped them cope with work-related stress and burnout and to drop the struggle of fixing or curing every patient with pain. **Conclusions:** ACT delivered via an online training was acceptable to physical therapists and supervision calls were necessary for confidence building and implementation into practice. The ACT model was perceived as adaptable to the practice of physical therapy as well as the complex clinical and psychosocial presentation of many chronic pain conditions. Future investigations should explore brief training interventions, treatment fidelity, long-term outcomes, the development and validation of a scale to measure knowledge, concepts and skills conceptualizing psychological flexibility within physical therapist practice.

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ABSTRACT

Purpose: Mounting evidence supports the use of cognitive and behavioral techniques as part of physical therapist practice. These methods are used within a physical therapist's multimodal treatment approach for the management of pain and to facilitate health behavior change. There is a multitude of evidence-based cognitive behavioral techniques to choose from including newer approaches based on Acceptance and Commitment Therapy. Yet few studies have examined physical therapists' perceptions to learning and implementing ACT into clinical practice. The purpose of this manuscript is to present a clinical perspective of physical therapists learning about and incorporating Acceptance and Commitment Therapy in clinical practice. **Methods:** An 8-week online physical therapist-led ACT for chronic pain training was completed by 65 physical therapists. A post-training evaluation was developed and then scored by 46 participants. The evaluation included 15-questions with regard to the self-reported perceptions of learning foundational ACT skills necessary to implement into physical therapy practice, a deeper understanding of psychological factors involved in musculoskeletal pain, confidence in managing musculoskeletal pain, utility in physical therapist practice, and the recognition of a new or different approach to treating musculoskeletal pain. **Results:** Participants' self-reported perceptions were highly positive with 73% reporting the training furthered their understanding of psychological factors in chronic musculoskeletal pain and 100% reported learning the foundational ACT skills necessary to implement it into physical therapy practice. In addition, 7 sub-themes regarding the ACT training emerged from a qualitative content analysis and included the following: 1) The training filled a knowledge gap in understanding of how to assess and treat psychological factors related to pain, 2) A mixture of prerecorded video training, reading, experiential exercises, and self-reflection via the ACTPTE were critical to reinforce learning, 3) Coaching and supervision calls were a useful part of the training and helped to translate course knowledge and implement into clinical practice, 4) Having an opportunity to practice in a group setting with like-minded peers was a critical component of confidence building, 5) Ongoing communication, networking, and mentorship via the online forum and coaching calls allowed participants to complete the course material on-time, stay connected, and share stories and experiences about implementing the material in practice, 6) The ACT stance of not changing pain or related psychological content (example: not changing thoughts, pain related beliefs, reconceptualizing pain) may run counter to other psychologically-informed approaches found in physical therapy practice and took some time for practitioners to process and integrate, 7) Some practitioners expressed that ACT helped them cope with work-related stress and burnout and to drop the struggle of fixing or curing every patient with pain. **Conclusions:** ACT delivered via an online training was acceptable to physical therapists and supervision calls were necessary for confidence building and implementation into practice. The ACT model was perceived as adaptable to the practice of physical therapy as well as the complex clinical and psychosocial presentation of many chronic pain conditions. Future investigations should explore brief training interventions, treatment fidelity, long-term outcomes, the development and validation of a scale to measure knowledge, concepts and skills conceptualizing psychological flexibility within physical therapist practice.

Keywords: acceptance and commitment therapy, physical therapist, chronic pain, psychologically-informed physical therapy

INTRODUCTION

Chronic pain is pain that is ongoing and usually lasts longer than six months.¹ The global burden of chronic pain has been worsened by the widespread emphasis placed on a biomedical approach that largely neglects to address the psychological components of chronic pain.² This omission has led to poorly managed pain, the chronification of pain, and the misuse of pharmaceutical medications³ and invasive procedures.⁴ Research has shown that the main predictors of pain chronification (i.e. the process by which acute pain becomes chronic), are social and psychological factors, rather than purely biomedical.^{5,6} If not properly addressed, these factors negatively impact pain treatment, decrease the efficacy of interventions, and are related to poor functional outcomes and quality of life.⁷ This highlights the urgent need for comprehensive pain management approaches which address biomedical along with cognitive and behavioral factors of pain rehabilitation.

Physical therapists are now expected to recognize pain associated with psychosocial distress and modify their treatment approach accordingly.^{8,9,10} However, available studies have indicated that the psychological aspects of pain are insufficiently addressed in entry-level physical therapy education programs and current clinical practice settings.¹¹ Results of a 2015 nationwide survey that evaluated the extent of pain education in entry-level physical therapist education programs revealed that only 2.7 contact hours on average were devoted to the psychological management of pain.¹² To date, there have been limited data on effective training methods in psychologically-informed physical therapy, especially for newer mindfulness and acceptance-based approaches, such as Acceptance and Commitment Therapy (ACT). However, mounting evidence suggests physical therapy informed by ACT can be effective in addressing psychological distress and improving physical function associated with chronic pain.^{13,14,15}

ACT is a cognitive behavioral therapy that has shown effectiveness for both physical¹⁶ and mental health conditions.¹⁷ ACT uses acceptance, mindfulness, commitment, and behavior change strategies to increase psychological flexibility. Psychological flexibility can be defined as contacting the present moment, and based on the situation, changing or persisting in behavior in the service of chosen values. This is cultivated through six positive psychological processes: acceptance, defusion, present moment awareness, self-as-context, committed action, and values. ACT is an empirically supported method of health behavior change¹⁸ which aims to reduce the dominance of pain in a person's life through the development of psychological flexibility.¹⁹ Unlike pain education approaches,²⁰ ACT does not focus on changing thoughts, modifying beliefs, or pain reduction – even though this may occur. The ultimate goal in ACT for pain is to defuse from the influence of language and cognition over behavior, and support the clarification of individual values, so those living with pain can return to an active life. ACT fosters an open approach toward human pain and suffering which builds resiliency.²¹ One of ACT's greatest strengths lies in its ability to address pain-related psychological factors (anxiety and depression), as well as improve values-based functional outcomes among a variety of chronic pain populations.^{22,23}

In a variety of chronic pain conditions, ACT for chronic pain is supported by at least 3 meta-analyses and systematic reviews. Hann and McCracken found ACT to be superior to inactive treatments for chronic pain.²⁴ Veehof^{23,25} et al found it superior to waitlist, treatment-as-usual, and education or support control groups. Effect sizes ranged from small (on all outcome measures except anxiety and pain interference) to moderate (on anxiety and pain interference) at post-treatment and from small (on pain intensity and disability) to large (on pain interference) at follow-up. Hughes et al²² found ACT was favored over controls (no intervention or treatment as usual), significant medium to large effect sizes for measures of pain acceptance and psychological flexibility, and significant small to medium effect sizes for measures of functioning, anxiety, and depression. Other investigations report improvements in psychological flexibility is associated with decreased pain catastrophizing²⁶ and is a critical predictor of pain-related outcomes.²⁷ More recent investigations suggest the importance of psychological flexibility as a resilience factor among individuals with chronic pain.²¹ This may mediate improvements in pain-related disability and life satisfaction, rather than competing processes, including fear of movement and self-efficacy.²⁸

Within a self-management approach, it has been recommended physical therapists apply principles of ACT to help patients effectively self-manage pain.²⁹ However, the adoption of psychologically-informed care is dampened not only by the mentioned gaps in pain education in current entry-level physical therapy curricula, but also by reports of inadequate professional training provided post-graduation, a recurrent issue arising in past efforts to train physical therapists in the use of biopsychosocial interventions.^{30,31} Only two studies have investigated the perception and/or implementation of an ACT training on physical therapist practice. The first study from 2016 investigated the impact of a brief psychologically informed training based on to increased knowledge and competence of physiotherapists working with people with chronic pain.³² The training aimed to help the participants recognize the role of psychosocial factors in chronic pain and to better target the processes of psychological flexibility a key factor care. A total of 25 physiotherapists working in an outpatient setting participated in a 7-hour training session. The training was associated with significant changes in physiotherapists' attitudes towards treatment of people with chronic pain, yet no assessment was made of the translation of changes in attitudes into changes in clinical practice or investigate the usefulness of the training in the trainee's practice. A 2020 longitudinal qualitative study using semi-structured, in-depth, individual interviews at three time points was conducted to investigate physical therapists' experiences over time from an ACT training.³³ A phenomenological approach

underpinned the methods and interviews followed topic-guides developed a priori. Eight physical therapists who worked in the same clinic received a 2-day face-to-face training, a training manual, and monthly follow-up supervision from a clinical/health psychologist and a physical therapist. Specific themes emerged from this study which included experiential learning techniques were valued as they bridged theoretical principles with practice, ongoing supervision was beneficial, and the training extended a professional's skills and practice.

Clinical practice guidelines recommend a biopsychosocial approach as the most up to date approach for the management of chronic pain, but physical therapists have reported feeling inadequately trained and lacking in confidence to deal with psychosocial factors. Even though ACT has demonstrated positive outcomes for pain management,²⁴ physical therapist perception of learning and implementing ACT has not been investigated. The purpose of this study was to investigate physical therapists' perceptions of learning and implementing ACT for chronic pain.

Methods and Materials

Participants

Inclusion criteria for this study were participants who had graduated with their physical therapy degree, were licensed, and agreed to participate in the ACT training course as part of the research study. There were no exclusion criteria. Prior ACT experience was not assessed. All participants received the same foundational education and training as part of a paid an accredited CEU activity for physical therapists.

Study Design

A post-course evaluation was created following good practice in conduct and reporting of surveys.³⁴ The survey was anonymous; no identifiable data on any individual in this survey.

Post-Course Evaluation

The author developed an Acceptance and Commitment Therapy for Physical Therapy Course Evaluation (ACTPTE) and questions based on recent guidelines for developing, translating, and validating a questionnaire in pain medicine.³⁵ A literature review was conducted to identify a previously validated questionnaire contextualized for PTs learning ACT. Since a questionnaire that measures the specific construct of interest was not be readily available, 4 themes and 15 subthemes identified in a 2020 systematic review and meta-synthesis of qualitative studies by Holopainen et al³⁰ was utilized to develop the ACTPTE (Table 1). The themes and subthemes reflect constructs, skills, knowledge, abilities, attitudes, and implementation potential with regard to physical therapists learning and incorporating biopsychosocial interventions in the management of chronic pain.

Table 1. Themes and Sub-Themes adapted from Holopainen et al.³⁰

Themes (n=4)	Sub-Themes (n=15)
1. Changed understanding and practice	Biopsychosocial understanding and application
	Person-centered care
	Enhanced therapeutic alliance and communication
	Wider application of new skills
	Professional benefits
2. Professional benefits	Increased confidence as a result of new skill
	Effective practice
	Increased job satisfaction
3. Clinical challenges	Clinical challenges
	Discomfort when dealing with psychosocial factors
	Consideration of professional role
	Resistance/questioning the new approach
	Overwhelmed by amount of new information
4. Learning requirements	Difficulty changing practices
	Structural learning, diverse learning methods during workshops

The final ACTPTE was comprised of 15 questions rated on a 5-point Likert scale from strongly agree to strongly disagree. Two questions (Q1 and Q2) were close-ended question. The ACTPTE was used to measure opinions and perceptions about the

training, obtain participants' valuation, as well as a preliminary measure of its effectiveness upon translation into real-world practice environments. (See Table 2 in Appendix)

Educational Course

An ACT for chronic pain training was designed and led by a licensed Doctor of Physical Therapy (JT) with over 25 years of training post-graduate physical therapists in biopsychosocial and integrative methods of pain management. ACT and its psychological flexibility model provided the theoretical underpinning for the training. It was delivered online over 8 weeks and total training time was 30 hours. The essential components of the training were described in *Racial Relief: A Guide to Overcome Chronic Pain Using Pain Science, Mindfulness and Acceptance and Commitment Therapy*.³⁶ Exercises and metaphors used in the training all derived from this workbook. The training included pre-recorded and live didactic, experiential, simulation, and ongoing feedback. This structure was recommended by Keefe⁹ and Bellenguee³⁷ as a framework for implementing PIPT training. Participants could review the training materials as many times as desired. The live component of the training included 4 group virtual (web-conference) coaching and supervision calls of 120-minutes each. The coaching and supervision consisted of questions and answers, patient role play, experiential exercises, and discussion of case-specific intervention approaches. A wide range of topics, from how to use and implement ACT principles in the PT evaluation and treatment, time-management considerations, scope of practice concerns, clinical decision making, and experiential exercises related to each of the six core processes were discussed. One call was conducted 4 weeks into the course, another at the end of the course (8 weeks), and the remaining two calls were held after the course's end date at week 12 and week 16, respectively. In addition, an online forum was set up for open networking and open communication between trainer and trainees and trainee to trainee in between the coaching calls. The forum was monitored by the course instructor on a daily basis for the duration of the study. This served as another mode of instruction. Core training content focused on teaching the ACT model and practical aspects related to psychological flexibility, including

1. ACT model of behavior change
2. psychological flexibility/inflexibility
3. workability and creative hopelessness
4. present moment awareness/past & future
5. self-as-context/conceptualized self
6. fusion/defusion
7. acceptance/ avoidance
8. values-based living/lack of values
9. committed action/inaction

In addition, because many practitioners experience complex, uncertain, and unique clinical practice situations that can be navigated with reflection,³⁸ participants were engaged in an ACT-consistent process of self-assessment using the ACT Core Competency Rating Form (ACT CCRF).³⁹ This 30-item measure is used to assess the primary competencies of a therapist delivering ACT. These competencies are based on the underlying model of ACT where the therapist works with the patient to promote psychological flexibility. The ACT CCRF was originally developed as a consensus measure by experts in ACT and published in *A Practical Guide to Acceptance and Commitment Therapy*.⁴⁰ This scale was administered at baseline (before the course began) and after the final week of the course. Specific competencies were reviewed and discussed during live coaching calls and in the online forum. The ACT CCRF has demonstrated measurable improvements in clinician psychological flexibility via a mixed effects model and is recommended for use during training programs to help in learning ACT.⁴¹ Upon completion of the course participants received a practitioner manual. The manual included a suggested clinical protocol for implementation along with examples of metaphors and activities to effectively deliver ACT for chronic pain in the context of physical therapy practice.

RESULTS

At the end of the training, participants completed the ACTPTE via an online survey rating their satisfaction with the training as well as their perceptions of learning and implementing ACT to treat chronic pain. The survey was anonymous; no identifiable data on any individual was collected. Sixty 65 licensed physical therapists (n=65) registered and completed the course. All participants were licensed physical therapists working in the United States of America. The overall survey response was 70%, with 46 of the 65 participants completing the ACTPTE. The questions from the survey and the results are described in detail in Table 1. Participants' perceptions about the course were highly positive. Relevant points identified from survey responses included: 1) 100% surveyed participants reported learning foundational ACT skills necessary to implement it into physical therapy practice (Q1) and would recommend the training to a friend (Q2), 2) 73% strongly agreed that the training furthered their understanding of psychological factors involved in musculoskeletal pain (Q3) and improved their understanding of person-centered care and shared decision making (Q4), 65% strongly agreed the course provided skills to enhance the therapeutic alliance and communication (Q5), 73% strongly agreed it proved new skills to treat persistent pain (Q6), 54% strongly agreed it improved their confidence in

managing musculoskeletal pain (Q7), 51% strongly agreed it helped them serve patients on a deeper level and have noticed improved outcomes and patient satisfaction (Q8), 58% strongly agreed learning ACT has been professionally rewarding and has led to improved job satisfaction (Q9), 62% strongly agreed learning ACT has helped them cope with discomfort when dealing with the psychosocial factors of pain (Q10), 71% strongly agreed the training was useful for clinical practice (Q11), 69% strongly agreed it helped them implement a new approach for the treatment of pain (Q12), 69% strongly agreed the course provided structure and diverse learning methods (Q13), 82% strongly agreed the instructor presented course content effectively and provided sufficient mentorship (Q14).

A qualitative content analysis was used to evaluate patterns in participant responses for open-ended question #15. Seven relevant sub-themes regarding the ACT course emerged:

1. The training filled a knowledge gap in understanding of how to assess and treat psychological factors related to pain,
2. A mixture of prerecorded video training, reading, experiential exercises, and self-reflection via the ACTPTE were critical to reinforce learning,
3. Coaching and supervision calls were a useful part of the training and helped to translate course knowledge and implement into clinical practice,
4. Having an opportunity to practice in a group setting with like-minded peers was a critical component of confidence building,
5. Ongoing communication, networking, and mentorship via the online forum and coaching calls allowed participants to complete the course material on-time, stay connected, and share stories and experiences about implementing the material in practice,
6. The ACT stance of not changing pain or related psychological content (example: not changing thoughts, pain related beliefs, reconceptualizing pain) may run counter to other psychologically informed approaches found in physical therapy practice and took some time for practitioners to process and integrate,
7. Some practitioners expressed that ACT helped them cope with work-related stress and burnout and to drop the struggle of fixing or curing every patient with pain. This was an unforeseen outcome that warrants further investigation on how ACT may impact practitioner burnout and professional wellbeing.

DISCUSSION

The results of this training experience adds to the existing literature and confirms the value of an ACT training to foster psychologically-informed skills and improved understanding of chronic pain for physical therapists.³³ PTs in this study generally perceived learning and implementing ACT was acceptable and beneficial for the treatment of pain. Previous psychologically informed training have varied between 10 and 150 hour.³⁰ The recent TARGET trial⁴² which utilized principles of CBT and included brief online educational modules followed by a live 8-h workshop was feasible to deliver, acceptable to physical therapists which resulted in improved beliefs and confidence in applying PIPT skills during clinical practice. Another recent 4-hour educational intervention in DPT students successfully shifted attitudes and beliefs towards a more psychosocial orientation and demonstrated improved behaviors consistent with psychologically- informed practice. Neither of the aforementioned trainings were based on the ACT model or principles, and one was conducted on students, not licensed physical therapists.³⁷ This study found similar results at 30-hours of training. The authors chose to increase the duration of training based on previous ACT studies and due to the unique conceptual and theoretical differences between ACT and CBT which may be new to physical therapists.

Chronic pain continues to impose a significant toll on the economic, social, physical, and mental wellbeing of those affected. Despite wide recognition of the necessity for alternative treatment options, adoption of psychological strategies by physical therapists somewhat lags behind public health recommendations. To properly conceptualize and implement into practice the biopsychosocial principles of patient care, physical therapists need to evaluate and be prepared to address a multitude of biological, psychological, cognitive, and social factors.

The usefulness of ACT delivered by physical therapists to improve pain self-management and quality of life in people living with pain is supported by recent research.^{8,13,14} A recent RCT contrasted outcomes of physical therapy informed by ACT (PACT) versus physical therapy alone for adults with chronic low back pain. Results showed that PACT was associated with significantly higher short-term improvement in disability, patient specific functioning, physical health, and treatment fidelity.¹³ Meanwhile, a single-arm study that evaluated outcomes of an 8-week program of combined exercise and ACT directed to chronic pain patients reported improvements in most outcomes post-intervention and maintenance of many changes at one-year follow-up.¹⁵

However, many efforts to train physical therapists in biopsychosocial interventions have so far fell short of expectations, leading to incomplete understanding and fragmented delivery of psychologically informed care. One investigation reviewed 12 published

studies to evaluate physical therapists' perceptions of learning and implementing biopsychosocial interventions to treat musculoskeletal pain. The conclusions stressed that although physical therapists reported a shift towards more biopsychosocial and person-centered approaches, the training interventions did not sufficiently help them feel confident in delivering all the aspects of the specific therapy.³⁰ Another study reviewing 5 randomized controlled trials (RCT) concluded that with additional training, physiotherapists can deliver effective behavioral interventions.³¹ However, without training or resources, successful translation and implementation remains unlikely. In addition, a pioneer effort to implement ACT into a physical therapy-led pain rehabilitation program underscored that physical therapists were uncomfortable with the shift from "fixing" towards "being with" pain proposed by ACT principles.³²

Although physical therapists are in a key position to treat chronic pain from a biopsychosocial approach through cognitive-behavioral methods, there is a clear need to provide them with quality training that maximizes the chances for effective translation into practice. Importantly, the feedback provided by physical therapists who completed our training on ACT for chronic pain indicated both high satisfaction with the training and increased confidence in delivering ACT in PT practice. Although the window of time provided to assess whether the learned contents could be effectively translated into practice was limited (answers to the questionnaire were recorded four months after the course's end), all participants agreed that the training was optimal, and the course helped them to implement a new approach for the treatment of pain.

Physical therapists are faced with managing increasingly complex chronic pain conditions which have strong bidirectional relationships between mental health and physical health^{43,44} The burden of mental illness in the United States is among the highest of all diseases, and mental disorders are among the most common causes of disability.⁴⁵ Dean⁴⁶ and Magnusson⁴⁷ recommended cognitive behavioral and mindfulness approaches for population health, prevention, health promotion, wellness, and health competency standards in physical therapist professional education. Mindfulness-based programs have demonstrated significant benefits for physical^{48,49} and mental health promotion^{50,51} in nonclinical settings. With regard to scope of practice, physical therapists can promote mental wellbeing and address anxious/depressive symptoms.^{46,52} As individuals and key members of interdisciplinary teams this places PTs at the intersection of managing chronic pain, optimizing health^{53,54} and promoting mental wellbeing.⁵²

Furthermore, although PTs promote exercise and physical activity as a primary intervention to treat pain, many have difficulty in describing specific behavioral methods in achieving this aim.⁵⁵ Since ACT is an evidence-based behavior change method it may have applications which are complimentary to and extend beyond pain management. Using ACT as a behavioral method for promoting exercise and physical activity may significantly improve a patients' overall health and provide lasting strategies for the treatment of comorbid chronic health conditions⁵⁶ and wellness.^{57,58} ACT has been recommended as an addition or complement to standard PT practice.⁵⁹ Finally, as ACT is a new generation psychological treatment for pain,⁶⁰ future studies should explore treatment fidelity, long-term outcomes, the development and validation of a scale to measure knowledge, concepts, skills, techniques, conceptualizing psychological flexibility within physical therapist practice, and brief training interventions. Patient perceptions in receiving ACT-informed care from a physical therapist, physical therapist-led trainings, multidisciplinary trainings consisting of individuals representing physical therapy and mental health, and cost-effectiveness ACT-informed care versus standard physical therapy should also be investigated. Barriers may exist for the implementation of ACT into physical therapist practice. This may include access to training, ongoing supervision, reimbursement challenges, and acceptability amongst patients and colleagues.

Limitations

There are several limitations to this study including lack of a control group or an active comparison. Second, there may have been unforeseen bias as the primary author created the educational intervention and completed the investigation. Participants were only followed for 8 weeks. Future studies should follow participants for 3-12 months.

CONCLUSION

This study and previous experiences suggest that ACT may be valuable to adapt to the practice of physical therapy and the complex clinical and psychosocial environments represented by many chronic pain conditions. Further studies should investigate expert training in delivering ACT within the context of physical therapist practice. This may support practitioners to provide effective treatment and improve the quality of life for people living with pain.

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Declaration of Interest

Author receives fees for providing clinical workshops for health care professionals in the management of musculoskeletal pain.

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APPENDIX

Table 2. Acceptance and Commitment Therapy for Physical Therapy Course Evaluation

Acceptance and Commitment Therapy for Physical Therapy Course Evaluation (ACTPTE)		
Q1: Would you recommend this course to a colleague?		
Answer Choices	Responses	
Yes	100.00%	46
No	0.00%	0
	Answered	46
Q2: Did this course provide the foundational skills and knowledge necessary to implement ACT into clinical practice?		
Answer Choices	Responses	
Yes	100.00%	46
No	0.00%	0
	Answered	46
Q3: This course furthered my understanding of psychological factors in musculoskeletal pain.		
Answer Choices	Responses	
Strongly agree	73.33%	33
Agree	24.44%	11
Neither agree nor disagree	2.22%	1
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	45
	Skipped	1
Q4: This course improved my understanding of person-centered care and shared decision making. (Ex: identifying patients' valued goals and making care more individualized and related to the patient's everyday life.)		
Answer Choices	Responses	
Strongly agree	73.91%	34
Agree	26.09%	12
Neither agree nor disagree	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46
Q5: This course provided skills to enhance the therapeutic alliance and communication. (Ex: has helped me be more collaborative and patient-focused.)		
Answer Choices	Responses	
Strongly agree	65.22%	30
Agree	34.78%	16
Neither agree nor disagree	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46
Q6: This course provided me with new skills to treat persistent pain.		
Answer Choices	Responses	
Strongly agree	73.91%	34
Agree	26.09%	12
Neither agree nor disagree	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46
Q7: This course improved my confidence in managing musculoskeletal pain. I feel better able to manage more complex health problems.		
Answer Choices	Responses	
Strongly agree	54.35%	25
Agree	36.96%	17
Neither agree nor disagree	8.70%	4
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46

Q8: Learning ACT helps me serve patients on a deeper level and have noticed improved outcomes and patient satisfaction.

Answer Choices	Responses	
Strongly agree	51.11%	23
Agree	33.33%	15
Neither agree nor disagree	15.56%	7
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	45
	Skipped	1

Q9: Learning ACT has been professionally rewarding and has led to improved job satisfaction.

Answer Choices	Responses	
Strongly agree	58.70%	27
Agree	32.61%	15
Neither agree nor disagree	8.70%	4
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46

Q10: Learning ACT has helped me cope with discomfort when dealing with the psychosocial factors of pain.

Answer Choices	Responses	
Strongly agree	62.22%	28
Agree	26.67%	12
Neither agree nor disagree	11.11%	5
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	45
	Skipped	1

Q11: ACT is a useful method to apply to my clinical practice.

Answer Choices	Responses	
Strongly agree	71.74%	33
Agree	26.09%	12
Neither agree nor disagree	2.17%	1
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46

Q12: This course helped me to implement a new approach for the treatment of pain.

Answer Choices	Responses	
Strongly agree	69.57%	32
Agree	30.43%	14
Neither agree nor disagree	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46

Q13: This course provided structured and diverse learning methods.

Answer Choices	Responses	
Strongly agree	69.57%	32
Agree	28.26%	13
Neither agree nor disagree	2.17%	1
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46

Q:14 The instructor presented course content effectively and provided sufficient mentorship.		
Answer Choices	Responses	
Strongly agree	82.61%	38
Agree	17.39%	8
Neither agree nor disagree	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
	Answered	46
Q15: What was your overall impression of the course? What went well? What could have been improved?		
Answered	42	
Skipped	4	
