Journal of Multidisciplinary Healthcare

Dovepress
Taylor & Francis Group

Open Access Full Text Article

ORIGINAL RESEARCH

Enhancing Clinical Confidence: Effects of Medical Screening and Differential Diagnosis Training for Low Back Pain

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Purpose: Direct access to physical therapy (PT) requires PTs to act as primary care providers, making differential diagnosis a critical component of patient assessment. We investigated how participation in postgraduate training in differential diagnosis and medical screening influences PTs' confidence, self-efficacy, attitudes and beliefs about treating patients with low back pain (LBP).

Patients and Methods: This prospective, two-arm study involved 49 PTs in an intervention group and 70 in a control group. The intervention included 40-hours of training on medical screening and differential diagnosis, focusing on red flags, clinical reasoning and referral pathways, while the control group received no intervention. Clinical confidence, self-efficacy, attitudes and beliefs were measured before, immediately after, and 6-months after training. Outcomes included the Primary Care Confidence Scale (PCCS), which assesses confidence in primary care practice, detection of serious pathology, and medical screening; the Physiotherapy Self-Efficacy (PSE) questionnaire, evaluating clinical self-efficacy in assessing and treating patients with LBP; and the Attitudes to Back Pain Scale for Musculoskeletal Practitioners (ABS-mp), which measures clinicians' attitudes and beliefs about LBP.

Results: The intervention group showed significant immediate improvements in PCCS scores (40.26 ± 5.23 to 45.24 ± 4.20, *Cohen's d* = 1.08, $p < 0.001$) and PSE scores (51.06 ± 6.46 to 54.65 ± 5.78, *Cohen's d* = 0.6, $p < 0.001$). At six-month, significant interaction effects were observed for PCCS ($F = 17.49$, Partial $\eta^2 = 0.131$, $p < 0.001$) and PSE scores ($F = 5.87$, Partial $\eta^2 = 0.06$, $p < 0.05$) and PSE scores (55.32 ± 6.09, $p < 0.05$), with the intervention group maintaining improvements while the control group showed no significant changes. No significant changes were observed in ABS-mp scores.

Conclusion: This study highlights the positive impact of training in medical screening and differential diagnosis on reducing concerns and increasing clinical confidence and self-efficacy.

Keywords: primary care, confidence, self-efficacy

Introduction

A significant portion of physical therapists' (PT) work in the orthopedic outpatient clinic is devoted to treating patients with low back pain (LBP); the most common musculoskeletal complaint[1] across all age groups.[2] LBP is a leading cause of absence from work[3,4] and one of the most costly health conditions, along with more complicated conditions such as cancer, mental illness, and autoimmune and cardiovascular diseases.[5]

Direct access to PT services is an effective way to improve care for patients with LBP. This approach is associated with reduced utilization of unnecessary healthcare services and lower costs.[6,7] Studies have shown that early access to PT services correlates with fewer physician visits, less frequent use of advanced imaging and opioid medications, and fewer procedures such as surgeries and lumbar injections.[7,8] In addition, early access to PT services has been shown to improve patient outcomes and overall quality of life.[6,9–13] Therefore, direct access to musculoskeletal PT services has been promoted worldwide.[14]

Received: 4 October 2024
Accepted: 10 December 2024
Published: 6 January 2025

PTs operate under direct access function as primary care providers. Therefore, PT societies, organizations, and guidelines have advocated for the integration of advanced medical screening and differential diagnosis in musculoskeletal practice.[14–16] This facilitates appropriate referral pathways and early identification of patients exhibiting clinical signs and symptoms suggestive of severe pathology beyond the scope of PT practice,[17–19] such as signs of infection, malignancy, visceral conditions, vascular pathologies, or neurological deficits. In addition, screening allows for tailored treatment plans that consider the patient's overall health status; thus, increasing the effectiveness of treatment and minimizing risks.[17–20]

Since most cases of LBP are non-specific, the diagnosis of LBP is one of exclusion. Therefore, clinicians must be confident that they can rule out all other differential diagnoses.[21–23] Although most screening items ("red flags") have low diagnostic accuracy[24,25] and the incidence of severe spinal disease is low (estimated at 1%), the consequences of misdiagnosis are severe.[26] Therefore, clinicians should apply advanced clinical reasoning and thorough history-taking when deciding whether a particular patient is appropriate for PT or whether a referral is required.[27] Although guidelines for the management of LBP should assist clinicians with this process, many still feel uncertain about their ability to provide differential diagnoses.[26,28] This could reduce the clinician's confidence and lead to over-medicalization, such as referrals for unnecessary imaging and treatments, including surgeries, and poorer overall treatment outcomes.[29,30]

Clinical confidence is the firm conviction, trust, and belief in oneself and in one's own strengths and clinical skills to examine, treat, and care for a particular group of patients.[31] Clinical confidence influences a clinician's willingness to initiate procedures, ask for assistance, and self-assess their skills.[32,33]

Studies have shown that training and education can influence PTs clinical confidence, attitudes, and beliefs. Surprisingly, the impact of professional instruction on clinical confidence is not always positive and does not necessarily correlate with professional competence.[29,34–36] Therefore, the immediate and medium-term effects of postgraduate training in advanced medical screening and differential diagnosis for LBP on PTs' confidence, self-efficacy, attitudes, and beliefs are still uncertain. While continuing education should improve diagnostic skills, focusing on potentially serious patho-anatomic conditions may reduce clinicians' confidence, which might often be low due to the inherent ambiguity involved in diagnosing LBP.

To date, no study has examined the effect of postgraduate continuing education on medical screening and differential diagnosis, on PTs' confidence in primary care. Therefore, this study aimed to examine whether and how participation in this type of postgraduate training affects PTs' confidence, self-efficacy, attitudes, and beliefs about LBP.

Materials and Methods

This prospective, two-arm study measured the confidence, self-efficacy, attitudes and beliefs of PTs before and after attending postgraduate training on medical screening and differential diagnosis. To control for variations in results over time, outcomes were also measured in a comparison control group of PTs who had not received training.

An a priori sample size estimation was performed using G-Power software (Düsseldorf, Germany). A 2×3 analysis of variance (2 groups, 3 measurements) to compare the effect within and between groups resulted in a total sample size of 74 participants, ie, 37 in each group ($1\text{-}\beta = 0.80$, effect size $f = 0.15$ and $\alpha = 0.05$). Therefore, we recruited 49 subjects in the intervention group and 84 subjects in the control group to control for dropouts.

The study was approved by Ariel University Ethics Committee (Number AU-HEA-SS-20230415) and complies with the Declaration of Helsinki. All subjects provided informed consent before participating in the study.

Participants

Participants in both groups were PTs who worked in an outpatient clinic, had at least one year of clinical experience in treating patients with LBP, and had not received postgraduate training in medical screening and differential diagnosis. Participants in the intervention group had the opportunity to enroll in the training, after being nominated by their supervisors (public and semi-private healthcare providers). The training was coordinated by their workplace. Recruitment for the control group took place via social media.

Procedure

The study procedure is described in Figure 1.

In the intervention group, data were collected at three time points: an initial measurement before training, an immediate follow-up up to one week after training, and a medium-term follow-up six months later. In the control group, two measurements were taken, an initial measurement and a follow-up measurement six months later to observe changes over time. Background data, including age, gender, level of academic education, place of work, and experience in treating patients with LBP were collected from all subjects at baseline. Outcome measures included the Physiotherapist Self-Efficacy (PSE) Questionnaire,[37] the Primary Care Confidence Scale (PCCS),[38] and the Attitudes to Back Pain Scale in Musculoskeletal Practitioners (ABS-mp).[39]

PTs in the intervention group participated in a 40-hour continuing education course on medical screening and differential diagnosis of LBP. The training included screening for serious pathologies of the lumbar spine and other musculoskeletal conditions, and emphasized learning specific detailed knowledge of these pathologies (etiology, epidemiology, pathophysiology, history and physical examination, medical evaluation and imaging, treatment and management, prognosis, complications, differential diagnosis, and referral pathways), alongside practical application and clinical reasoning in simulated learning experiences.[40,41] The training curriculum was based on updated literature regarding medical screening and LBP.[19,20,24–27,42–51] At the end of the training, a written knowledge exam and a competency test were administered using simulated case examples. The course was delivered by a diagnostic radiologist physician and a PhD candidate PT, both with more than 9 years of experience in teaching continuing education courses on medical screening and differential diagnosis in musculoskeletal PT. The training program took place from January to March 2023, involving PTs from 32 centers. The control group did not receive any intervention. There was no specific guidance or instruction not to undergo additional training during the study period in either group (control/intervention group), which is consistent with actual clinical practice. However, attendance at a course during the study was monitored in both groups.

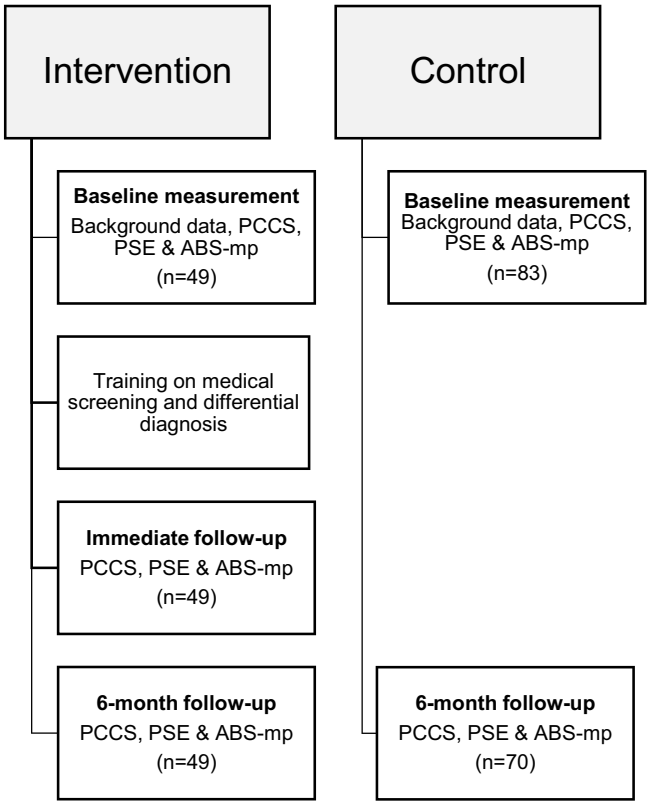

Figure 1 The study procedure.

Abbreviations: PSE, Physiotherapist Self-Efficacy questionnaire; PCCS, Primary Care Confidence Scale; ABS-mp, Attitudes to Back Pain Scale in Musculoskeletal Practitioners questionnaire.

https://doi.org/10.2147/JMDH.S493650

Outcome Measures

The Primary Care Confidence Scale (PCCS)

The Primary Care Confidence Scale (PCCS) is a valid and reliable measure (Cronbach's α= 0.83, ICC=0.78) of clinicians' confidence in treating LBP in primary care. The PCCS contains 12 items rated on a 5-point Likert scale, with final scores ranging from 12 to 60 points (higher scores indicate better clinical confidence). The standard error of measurement and minimal detectable change are 1.39 and 3.85, respectively. The PCSS can be further analyzed according to three domains: confidence in LBP practice, detection of red flags and serious pathology, and imaging and medical screening.[38]

The Physiotherapist Self-Efficacy (PSE) Questionnaire

The Physiotherapist Self-Efficacy (PSE) questionnaire evaluates PT students' clinical self-efficacy through 13 items rated on a five-point Likert scale (Cronbach's α> 0.90, ICC=0.80). Scores range from 13 to 65, with higher scores indicating better self-efficacy. The PSE's structure shows that self-efficacy is not general but specific to a particular clinical domain. The standard error of measurement of the PSE is 1.75, and the minimal detectable change is 4.85.[37,52]

The Attitudes to Back Pain Scale in Musculoskeletal Practitioners (ABS-mp)

The ABS-mp assesses clinicians' attitudes and beliefs about LBP.[53] The version of the ABS-mp used in this study has good to excellent psychometric properties. It was translated from English to Hebrew.[39] The scale comprises 14 items rated on a seven-point Likert scale and is divided into four subscales: (1) Biomedical: three items recommending limiting activity, promoting vigilance and believing that back pain has a structural cause. Scores range from 3 to 21, with higher scores indicating a biomedical-oriented attitude. (2) Psychological: Four items on willingness to explore patients' psychological problems. Scores range from 4–28, higher scores indicate a more pro-psychological attitude. (3) Limitations on Sessions: Four items on limiting the duration of treatment. Scores range from 4–28, with higher values indicating a less restrictive approach. (4) Reactivation: Three questions on attitudes towards returning to work and daily activities. The score range is 3–21 and higher scores indicate a more reactivation-oriented approach and increasing mobility.[39,53] The Psychological, Biomedical and Re-activation subscales have acceptable Cronbach's α values (α = 0.742, α = 0.518 and α = 0.593, respectively).[39]

Statistical Analysis

Descriptive statistics report the baseline characteristics of the participants. Shapiro–Wilk test was used to check the distribution of all continuous variables. Baseline characteristics were compared between groups using a *t*-test or a chi-square test. Immediate post-intervention effects were assessed with paired *t*-test and Cohen's d for effect size: small (d = 0.2), medium (d = 0.5), and large (d ≥ 0.8).[54] Linear mixed-effects models were conducted to examine the interaction effect of time (baseline/6-month follow-up) with group (intervention/control) while accounting for the correlated nature of the data (participants' index number as a random intercept).[55] Significant interaction effects were further explored with post hoc analysis using Tukey's test. Partial eta^2 values were calculated and interpreted as follows: small ($\eta^2 = 0.01$), medium ($\eta^2 = 0.06$), and large ($\eta^2 = 0.14$).[54,56] The assumption of a normal distribution of residuals was evaluated using histograms. Analysis was conducted using R and RStudio software with "tidyverse", "lme4", "lmerTest" and "stats" packages.[57–61]

Results

There were no between-group differences in baseline characteristics except for their primary workplace ($p < 0.001$). None of the participants attended an additional course during the study period. Table 1 summarizes the baseline characteristics of the participants in both groups.

Immediate Post-Intervention Effects

The immediate effects were tested in the intervention group only. The results of all outcome measures and comparisons are summarized in Table 2. The total PCCS score improved significantly (mean difference = 4.98, Cohen's d = 1.08, p < 0.001). Improvements is PCCS subscales were: LBP Practice Confidence (mean difference = 1.84, Cohen's d = 0.75, p < 0.001), Red Flags & Serious Pathology Identification (mean difference = 2.44, Cohen's d = 0.92, p < 0.001), and Imaging & Medical

Table 1 Baseline Characteristics of the Participants

Characteristic	Intervention (n = 49)	Control (n = 70)	*p*-value
Age, mean (SD)	38.15 (7.22)	39.54 (9.4)	0.35
Female (%)	30 (61.2)	39 (55.7)	0.54
Experience in years, mean (SD)	10.44 (7.64)	11.1 (9.59)	0.69
Education (%):			0.41
Bachelor's degree	39 (79.6)	51 (72.9)	
Master's degree	10 (20.4)	17 (24.2)	
Doctor of Philosophy	0	2 (2.9)	
Primary Workplace (%):			< 0.001
Public clinic	46 (93.9)	34 (48.6)	
Private clinic	1 (2)	27 (38.6)	
Rehabilitation center	0	2 (2.9)	
Hospital	2 (4.1)	6 (8.6)	
University	0	1 (1.4)	

Abbreviation: SD, standard deviation.

Table 2 Mean Scores of Outcome Measures and Results of Immediate Post-Intervention and Follow-Up Comparison

Variable	Baseline		Post-Intervention			6-Month Follow-Up	
Values are Mean (SD)	Intervention	Control	Intervention	Cohen's *d*[a]	Intervention	Control	*F*[1, 117], Partial η^2[b]
PCCS							
Total score	40.26 (5.23)	43.82 (6.69)	45.24 (4.20)	1.08***	47.06 (4.64)	43.8 (7.25)	17.49, 0.131***
Subscale 1	17.61 (2.78)	18.6 (3.33)	19.45 (2.27)	0.75***	20.14 (2.16)	18.57 (3.72)	10.84, 0.09***
Subscale 2	12.36 (2.62)	13.8 (2.94)	14.8 (2.05)	0.92***	15.2 (2.14)	13.57 (2.93)	18.19, 0.134***
Subscale 3	10.28 (2.04)	11.42 (2.08)	11 (1.88)	0.35*	11.71 (1.9)	11.65 (2.01)	5.08, 0.041*
PSE							
Total score	51.06 (6.46)	52.56 (7.97)	54.65 (5.78)	0.6***	55.32 (6.09)	53.08 (8.27)	5.87, 0.06*
ABS-mp subscales							
Psychological	21.49 (3.4)	21.9 (3.35)	19.94 (2.83)	0.43**	20.79 (3.58)	21.61 (3.47)	0.20, < 0.01
Re-activation	17.12 (2.58)	16.11 (2.56)	16.49 (2.58)	0.27	17.02 (2.45)	16.48 (2.79)	0.46, < 0.01
Limitation on sessions	16.31 (4.25)	14.72 (5.2)	15.53 (2.95)	0.16	14.77 (4.31)	13.34 (4.79)	0.01, < 0.01
Biomedical	10.12 (3.12)	7.7 (2.98)	10.24 (2.94)	0.58	9.38 (2.79)	7.25 (2.67)	0.15, < 0.01

Notes: [a]Differences between baseline and post-intervention scores in the intervention group (using paired *t*-test); [b]Interaction effect of time (baseline/6-months follow-up) with group (intervention/control). *Significant at $p < 0.05$; **Significant at $p < 0.01$; ***Significant at $p < 0.001$.

Abbreviations: SD, standard deviation; PCCS, Primary Care Confidence Scale; Subscale 1, LBP Practice Confidence; Subscale 2, Red flags and Serious Pathology Identification; Subscale 3, Imaging & Medical Screening; PSE, Physiotherapist Self-Efficacy questionnaire; ABS-mp, Attitudes to Back Pain Scale in Musculoskeletal Practitioners questionnaire.

Screening (mean difference = 0.72, Cohen's d = 0.35, $p < 0.017$). The intervention had a medium-large effect on PSE (mean difference = 3.59, Cohen's d = 0.6, $p < 0.001$). For the ABS-mp, a small-medium negative effect was observed in the Psychological subscale scores (mean difference = −1.55, Cohen's d = 0.43, $p = 0.004$). The three additional ABS-mp subscales did not change significantly ($p > 0.05$). Non-normally distributed measurements were retested with the Wilcoxon signed-rank test (details in Table 3). Overall, retesting confirmed the results of the analysis.

Table 3 Summary of Non-Parametric Comparison Between Baseline and Immediate Post-Intervention Measurements

Values as Median (IQR)	Baseline	Post-Intervention	Statistic	*p*-value
PCCS total score	41(8)	46(5)	5.34	< 0.001
Subscale 1	18(3)	20(3)	4.32	< 0.001
Subscale 2	12(3)	15(3)	4.98	< 0.001
Subscale 3	10(3)	11(3)	2.32	0.02
PSE				
Total score	50(9)	53(7)	3.7	< 0.001
ABS-mp's subscales				
Psychological	22(5)	20(4)	−3.18	0.001
Re-activation	18(4)	17(3)	−2.02	0.043
Limitation on Sessions	16(6)	16(4)	−1.61	0.107
Biomedical	9(5)	10(4)	0.61	0.53

Abbreviations: PSE, Physiotherapist Self-Efficacy questionnaire; PCCS, Primary Care Confidence Scale; Subscale 1, LBP Practice Confidence; Subscale 2, Red flags and Serious Pathology Identification; Subscale 3, Imaging & Medical Screening; ABS-mp, Attitudes to Back Pain Scale in Musculoskeletal Practitioners questionnaire.

Six-Month Follow-Up Effects

A significant interaction between time and group effects was observed for the PCCS and PSE scores, indicating differing impacts between groups over time. For the total PCCS scores, the interaction effect was $F[1, 117] = 17.49$, $p < 0.001$, partial $\eta^2 = 0.13$. For PCCS subscales, interaction effects were: LBP Practice Confidence ($F[1, 117] = 10.84$, $p < 0.001$, partial $\eta^2 = 0.09$), Red Flags & Serious Pathology Identification ($F[1, 117] = 18.19$, $p < 0.001$, partial $\eta^2 = 0.13$), and Imaging & Medical Screening ($F[1, 117] = 5.08$, $p = 0.025$, partial $\eta^2 = 0.04$). For PSE scores, the interaction effect was $F[1, 117] = 5.87$, $p = 0.016$, partial $\eta^2 = 0.06$. No significant interaction effects were found for any of the ABS-mp subscales ($p > 0.05$).

Post-hoc analysis revealed no differences between baseline and 6-month follow-up in the control group over time in any of the PCCS (total and subscale scores) and PSE scores ($p > 0.9$). Conversely, the intervention group improved in all PCCS and PSE scores. The total PCCS score improved by a mean difference of 6.8 ($p < 0.001$). The scores of the PCCS subscales improved as follows: LBP Practice Confidence (mean difference = 2.53, $p < 0.001$), Red Flags & Serious Pathology Identification (mean difference = 2.84, $p < 0.001$), and Imaging & Medical Screening (mean difference = 1.43, $p = 0.003$). The PSE scores improved by a mean difference of 4.26 ($p = 0.011$). Figures 2 and 3 illustrate boxplots of the PCCS and PSE scores, respectively.

Discussion

The results of this study suggest that participation in postgraduate continuing education focused on medical screening and differential diagnosis positively influences PTs' clinical self-efficacy and confidence in providing primary care for patients with LBP. PTs who participated in the training had increased confidence in the specific skills needed to work in primary care and improved self-efficacy in examining and treating patients with LBP, while their proficiency of those in the control group did not improve over time.

Previous research indicates that higher confidence and clinical self-efficacy encourage clinicians to proactively initiate procedures, seek assistance, and regularly review their skills.[32,33] Our results showing a sustained effect on these aspects of competence after a 6-month follow-up could have positive implications for PT treatment of LBP via a direct-access

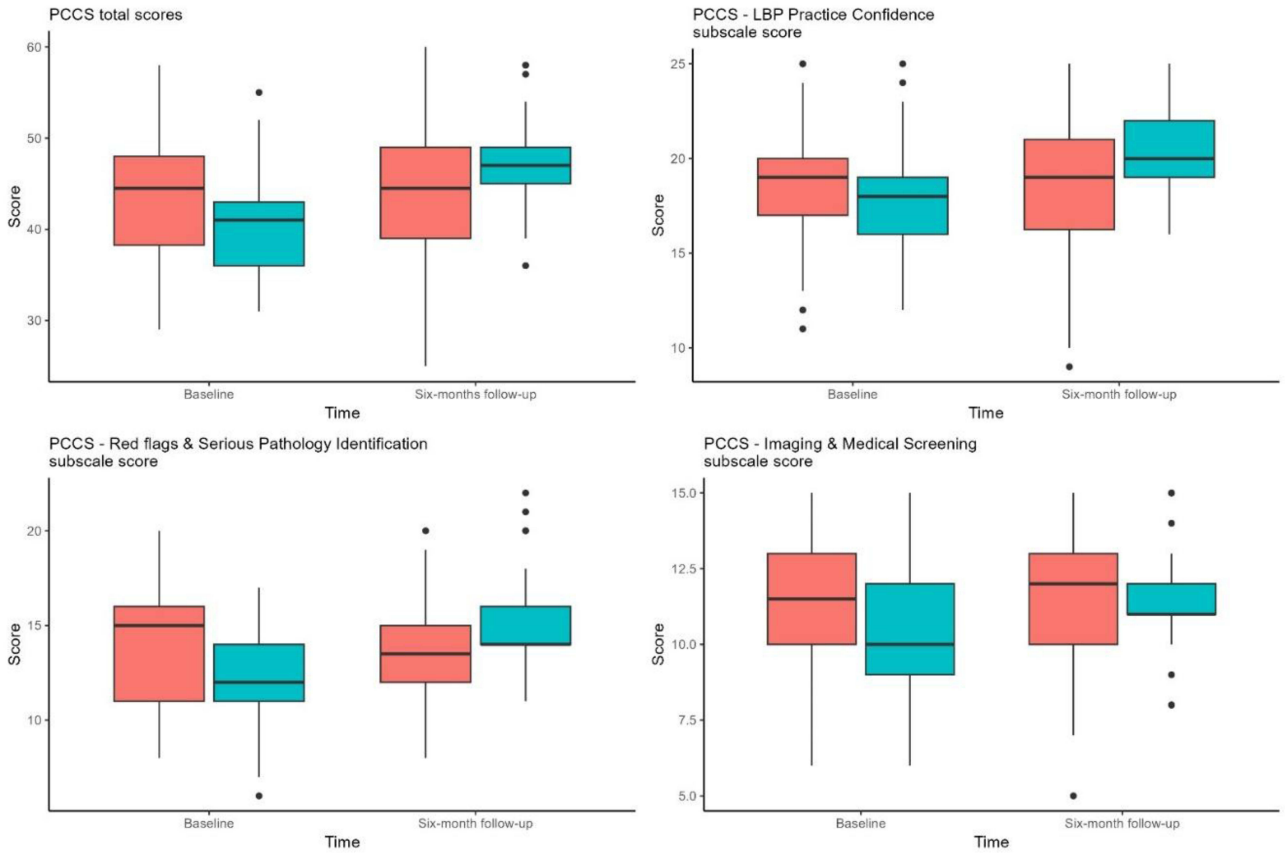

Figure 2 PCCS scores across groups.
Abbreviation: PCCS, Primary Care Confidence Scale.

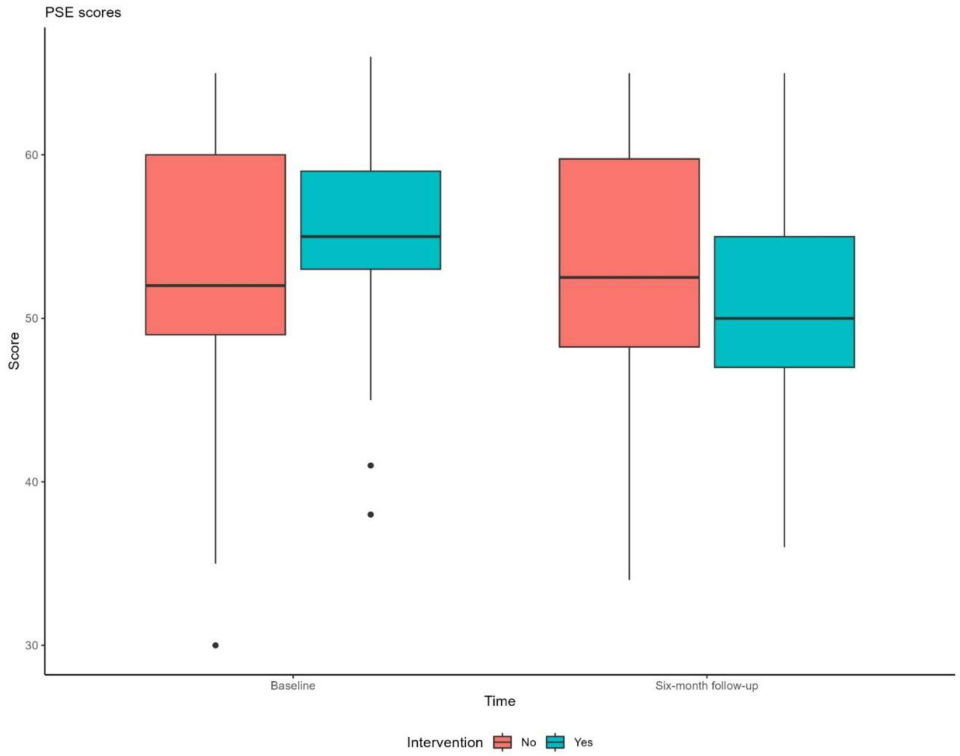

Figure 3 PSE scores across groups.
Abbreviation: PSE, Physiotherapist Self-Efficacy questionnaire.

https://doi.org/10.2147/JMDH.S493650

service and may lead to better treatment outcome.[6,33,62,63] Interestingly, an additional six months of clinical experience without further continuing education did not improve the participants' confidence and self-efficacy as observed in the control group results. This finding, along with additional studies[64,65] challenged the belief that experience is needed to develop clinical competence and achieve better clinical outcomes.[66] These results suggest that targeted educational interventions in addition to experience may be more effective than clinical practice alone, in improving clinicians' confidence and self-efficacy.

Our initial concerns about the intervention's potential negative impact on clinicians' attitudes were partially supported by immediate post-intervention results, showing minor negative effects on Psychological subscale of the ABS-mp. However, these effects were small and not observed at the 6-month follow-up. This is significant given previous research indicating that clinicians' attitudes towards LBP can influence their clinical decisions and guideline adherence.[67–69] The lack of long-term changes in attitudes and beliefs can be viewed positively, as it suggests the training's focus on pathoanatomical diagnosis did not reinforce a biomedical perspective at the expense of recommended biopsychosocial approaches for LBP.[68]

Clinical guidelines emphasize reassuring LBP patients about the unlikelihood of serious pathology while advocating for screening to detect significant diagnoses.[15,16,70–72] Our intervention enhanced clinicians' abilities in medical screening and differential diagnosis, potentially alleviating concerns about overlooking serious conditions and enabling more effective patient reassurance. This contradicts the notion that focusing on serious pathoanatomical diagnoses might increase clinicians' anxiety about missed diagnoses. Instead, additional knowledge and skills in these areas boost clinicians' confidence and self-efficacy. The improvement in both PCCS and PSE scores following the intervention demonstrates its positive effect. The PCCS assesses confidence in specific sub-skills for managing LBP in primary care, while the PSE evaluates self-efficacy in diagnosing and treating LBP patients. Notably, the Red Flags & Serious Pathology subscale of the PCCS showed the most improvement, followed by LBP Practice Confidence and Imaging & Medical Screening. This suggests that increased confidence may be linked to a better self-perceived ability to screen for red flags and recognize serious pathology, aligning with the intervention's goals and clinical guideline recommendations.

The training provided knowledge in medical screening and differential diagnosis which could explain the increase in the PCCS score, as it is possible that the more extensive abilities in screening for serious pathology gained in the training reduced clinicians concerns about misdiagnosing masquerading conditions. In addition, the training included practical application and clinical reasoning through simulated learning experiences, all from the perspective of person-centered care.[20,40,41] This comprehensive approach may have enhanced the study participants' abilities to communicate effectively with patients about medical screening and examination processes, increasing their competence. However, the effect of this training on communication skills and the impact on treatment should be further investigated.

Another factor that may have enhanced the participants' confidence is the introduction to the concept of safety netting.[23] In many medical conditions, the absence of a formal diagnosis can lead to low clinician confidence due to difficulties in tolerating uncertainty.[22] Safety netting is a recognized diagnostic strategy often employed in the face of uncertainty. It assists clinicians in managing patients with unresolved or worsening symptoms by providing guidance on when and how to refer the patient for additional medical attention. This approach is an important method for reducing clinical risk. Safety netting helps professionals manage clinical ambiguity by establishing formal safety boundaries, guiding clinicians on when to take action and refer patients for further tests or investigations.[73] This concept could account for the observed improvement in PCCS and PSE scores following the intervention.

This study has several limitations. Firstly, participants were not randomly assigned to the study arms. This decision was made to mimic real-world practice, with subjects in the intervention group nominated for training by their regional supervisor. Non-randomized studies are prone to allocation bias, as subjects with a more favorable baseline prognosis may be selected.[74] However, to mitigate this bias, we recruited subjects with similar characteristics as a control group, with the exception of their primary workplace, as previous studies found no significant difference in PCCS and PSE scores between PTs working in a public or private outpatient clinic.[37] It should also be noted that while screening for red flags and medical conditions is a standard practice in medical disciplines including PT, the diagnostic principles in common PT methodologies such as MDT McKenzie, Mulligan Concept, and Cognitive Functional Therapy may differ. Therefore, future studies should investigate whether the effects of training in medical screening and differential diagnosis

are influenced by the therapist's treatment method. Our study exclusively focused on PTs, which enhances the specificity of our findings. However, caution is warranted when generalizing the conclusions to other occupational groups. Finally, our results demonstrate that training reduces concerns and enhances confidence and self-efficacy, supporting the hypothesis that improved competence in medical screening and differential diagnosis correlates with increased clinical confidence and self-efficacy. Nonetheless, we did not directly investigate the relationship between competence and the changes observed in clinical confidence and self-efficacy. Therefore, we recommend that future research explore this relationship by examining how competence, possibly assessed through final training examination scores, correlates with changes in clinical confidence, clinical self-efficacy and perhaps treatment outcomes.

Conclusion

The results of this study underscore the positive impact of training in medical screening and differential diagnosis, on reducing concerns and boosting clinical confidence and self-efficacy. It highlights the significance of ongoing training, as enhancing self-confidence and self-efficacy could improve treatment outcomes. These findings should motivate policy makers and educators to allocate more time and resources to training programs focused on medical screening and differential diagnosis. By prioritizing these training initiatives, educators and policy makers can empower healthcare professionals to provide more effective care and ultimately enhance patient outcomes.

Acknowledgments

We acknowledge the contribution of all participants who gave their time and provided valuable insights into this research.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Disclosure

The authors have no potential conflict of interest to disclose.

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