

Utilization of the AOPT 2012 Low Back Pain Clinical Practice Guidelines and the 2021 Low Back Pain Clinical Practice Guidelines Revision

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ABSTRACT

Background and Purpose: The use of Clinical Practice Guidelines (CPGs) is beneficial to both physical therapists and their patients. The goal of this exploratory survey is to identify physical therapists' educational exposure to CPGs and utilization of the 2012 Low Back Pain (LBP) CPG or 2021 LBP CPG Revision in patient care. **Methods:** An online survey was distributed to physical therapists regarding perceived confidence, utilization, and observed patient outcomes. **Findings:** Physical therapists with 0-5 years of experience recorded the highest rate of CPG use in their clinical practice. **Clinical Relevance:** Therapists responded more favorably to the 2021 LBP CPG Revision regarding confidence, utilization, and efficacy. **Conclusion:** Future studies with a larger sample size could provide more insight into the perspectives of practicing physical therapists on the utilization of CPGs in patient management to improve upon the development of CPGs within the physical therapy profession.

Key Words: clinical practice guidelines, intervention guidelines, low back pain

INTRODUCTION

Low back pain (LBP) is a prevalent, debilitating musculoskeletal condition treated by a variety of healthcare professionals in the United States.¹ Health care costs for the treatment of LBP in the United States are considerable, with an estimated cost of \$134.5 billion in 2016 and subsequent annual increases.² Additionally, the lifetime prevalence of LBP is 58-84%, with an associated high rate of reoccurrence.¹ Many healthcare professionals deliver treatment to patients with LBP, which range from surgery to pharmaceuticals to chiropractic manipulation. However, physical therapy has emerged as an efficacious conservative treatment for LBP conditions with evidence to support its effectiveness and ability to lower health care costs.³ Several clinical practice guidelines (CPG) have been published over

the years to aid healthcare practitioners with the treatment of LBP,⁴ including the 2012 Low Back Pain CPG by Delitto et al⁵ and the most recently published updated 2021 Low Back Pain CPG Revision by George et al,⁶ both specifically designed for use by physical therapists.

The goal of CPGs is to provide clinicians with a comprehensive guide for use when treating certain conditions encountered as a healthcare professional.^{1,5} Authors of these guidelines offer evidence-based recommendations for examining, evaluating, and treating patients, as well as giving insight into the clinical course of the specific disorder.⁵ Research over the years has demonstrated that the use of CPGs, especially those designed for the treatment of musculoskeletal conditions, is beneficial to both physical therapists and their patients.⁷ For clinicians, guidelines provide an evidence-based foundation to their practice and are a great reference for conditions that they may not be as familiar with or comfortable treating.⁵ Patients also benefit from the use of CPGs in physical therapy as evidenced by improved long-term patient outcomes.⁷ Childs et al³ demonstrated that early physical therapy intervention that is adherent to CPGs for the treatment of LBP can help reduce the healthcare costs associated with these conditions. Results of this study reveal that those who did not receive guideline adherent physical therapy treatment were more likely to require costly treatments such as advanced imaging, prescription medications, and surgery.³

Despite the evidence to support their use in clinical settings, there are several barriers to the application of these guidelines by physical therapists. One difficulty that physical therapists have, especially those who are entry-level, is not having the experience to use the CPG with their patients.^{8,9} Though these recommendations are helpful in the process of assessing a patient's treatment course, it can be challenging to translate the guidelines from paper to practice. Authors also show that physical therapists with specialized credentials, particularly those in

the field of manual therapy and orthopedic clinical specialists, are more adherent to the guidelines than those without higher-level qualifications when treating LBP conditions.⁸ Evidence demonstrating the objective measures of CPG application in practice is ample, but data on the physical therapists' perspectives on the process of using CPGs in patient management is lacking. The purpose of this exploratory study was to survey physical therapists to identify their educational exposure to CPGs and the utilization of the 2012 Low Back Pain CPG⁵ or 2021 Low Back Pain CPG Revision⁶ in patient care.

METHODS

This exploratory study examined the educational exposure and usage of CPGs by physical therapists as well as therapist perceptions on the efficacy, ease of application, and personal confidence with employing the 2012 Low Back Pain CPG⁵ or the 2021 Low Back Pain CPG Revision⁶ when treating patients with acute and chronic LBP conditions. This study was approved by the Institutional Review Board at Gannon University, Erie, PA.

Design

An online survey (Appendix A) was created using Select Survey.NET and included the informed consent. Demographic information including highest earned physical therapy degree, years of clinical experience, advanced degrees earned, specialty certifications held, practice setting, patient populations treated, and whether they had received training on the use of CPGs was collected. Questions regarding the participants' perceived confidence, adequacy of education, ease of application, and observed patient outcomes in reference to the use of CPGs in general, the 2012 Low Back Pain CPG by Delitto et al, and the 2021 Revised Low Back Pain CPG were formatted as statements. Answer choices for these questions were provided on a Likert scale using 6 levels from "strongly agree" to "strongly disagree". The "neutral" answer option was eliminated

to prevent participants from negating their response and to encourage participants to choose the answer that best reflected their personal experiences.

Participants and Recruitment Procedures

A link to the survey was distributed via virtual newsletters for the APTA Pennsylvania chapter, American Physical Therapy Association (APTA), Academy of Pelvic Health, and Academy of Orthopedics. As a prerequisite for survey distribution through these outlets, one or more authors were members of each organization and completed the application for distribution once IRB approval was received. Once accepted for distribution, these organizations were instructed to market to licensed physical therapist members. The survey was available in February 2022.

DATA COLLECTION AND ANALYSIS

Once the survey was closed, descriptive statistics were used to analyze the responses from participants. Excel graphs were developed to visualize the findings. Authors reviewed the survey responses between groups based on years of experience, specialty certifications held, or advanced degrees earned to identify trends in training and utilization of CPGs including their perceived confidence, educational exposure, and efficacy applying the 2012 and 2021 Low Back Pain CPGs^{5,6} into their clinical practice.

Results

Of the 195 individuals who opened the survey tool, 18 individuals completed the survey with a response rate of 9%. Demographic information was examined initially regarding participant exposure to the CPGs. Years of experience was determined to be the primary discerning factor between all participants as they all had similar practice settings, patient populations, and specialty area of practice. Due to the homogeneity of the group, years of experience was examined and a comparison to the utilization of CPGs in clinical practice was noted (Table 1, Figure 1).

Based on the participants who responded, therapists with 0-5 and 16-25 years of practice experience recorded the higher rates of CPG use in their clinical practice with 0-5 range having the highest number (Table 2, Figure 2). When comparing years of experience and where participants received training for/exposure to the use of CPGs (Table 3, Figure 3), physical therapy school, continuing education courses, and research articles were the most common sources.

Table 1. Participants Who Received Training on the Use of Clinical Practice Guidelines (n=18)				
	Years of Experience			
	0-5 years	6-15 years	16-25 years	26+ years
Yes	6	3	3	1
No	1	1	2	1
Total	7	4	5	2

Figure 1. Participants Who Received Training on the Use of CPGs Based on Years of Clinical Experience

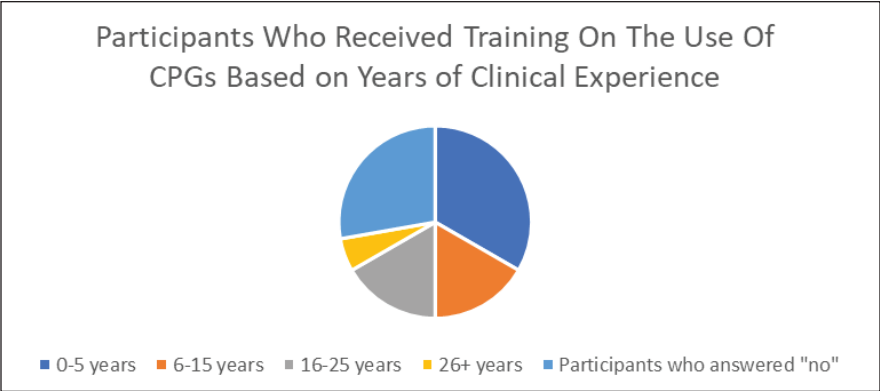


Table 2. Participants Who Report Using Clinical Practice Guidelines in their Clinical Practice (n=18)				
	Years of Experience			
	0-5 years	6-15 years	16-25 years	26+ years
Yes	6	2	4	1
No	1	2	1	1
Total	7	4	5	2

Figure 2. Participants Who Use Clinical Practice Guidelines in their Clinical Practice Based on Years of Experience

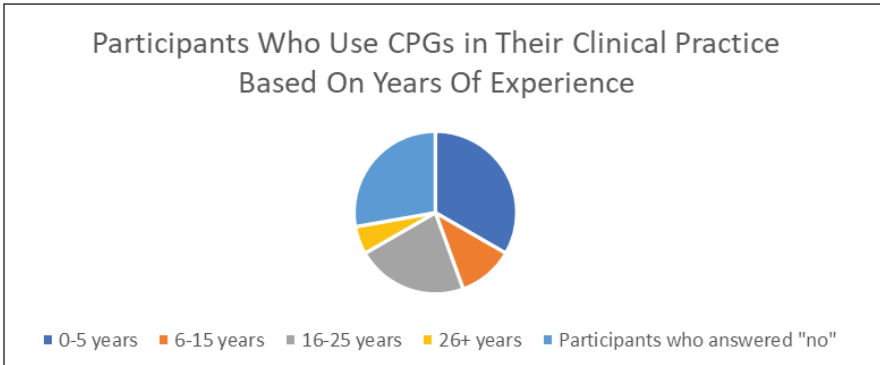


Table 3. Comparing Years of Experience and Where Participants Received Training For/Exposure to the Use of Clinical Practice Guidelines (n=18)

	Years of Experience				Total
	0-5 years	6-15 years	16-25 years	26+ years	
Physical Therapy Education	6	2	0	0	8
Continuing Education Courses	4	2	1	1	8
Colleague	1	0	1	0	2
Clinical Instructor	0	0	0	0	0
Student Mentee	1	0	1	0	2
Research Article	1	2	3	1	7
Residency	2	1	0	0	3
Fellowship	0	1	0	0	1

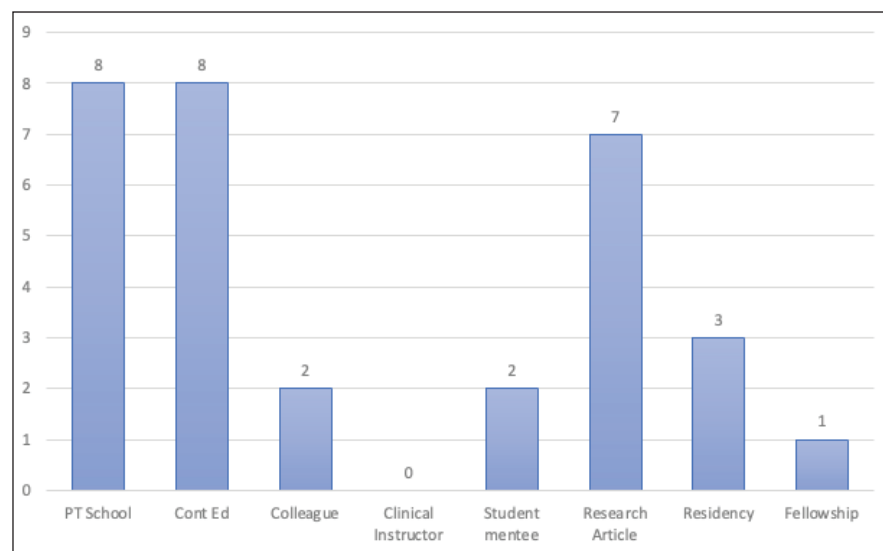
DISCUSSION

The purpose of this study was to survey physical therapists on their utilization of CPGs in physical therapy practice and more specifically survey users of the 2012 and 2021 Low Back Pain CPGs^{5,6} on their confidence in using the guidelines and efficacy in clinical practice. Participants with 5 years or less work experience as a licensed therapist demonstrated higher use of CPGs in their clinical practice as well as more training having been exposed to the guidelines both through their formal education as well as continuing education after graduation and/or residency programs. This finding suggests that the more recent graduates have more exposure to CPGs at an earlier stage in their career, likely due to larger numbers of CPGs being published more recently, thus not being available in the curriculum when more experienced clinicians were being trained.

However, despite newer physical therapists generally having more training on using CPGs, responses to questions specifically regarding the 2012 and 2021 Low Back Pain CPGs^{5,6} were similar across the board. This shows that CPGs are equally accessible and applicable to physical therapists of many different backgrounds. One trend that was observed was the greater positive responsiveness to the 2021 Low Back Pain CPG⁶ when comparing responses to the 2012 Low Back Pain CPG.⁵ Respondents reported increased confidence in the understanding and utilization of the revised 2021 Low Back Pain CPG.⁶ Authors of the revised CPG used World Health Organization International Classification of Functioning, Disability and Health (ICF) terminology to improve understanding of the recommendations.⁶ The authors also included recommendations for interventions not listed in the 2012 Low Back Pain CPG⁵ (eg, dry needling, cognitive functional therapy, and pain neuroscience education) which are becoming more commonly used to treat LBP.⁶ These revisions likely increased the therapist's acknowledgment of the usefulness and benefit of applying these guidelines to their clinical practice.

One limitation of the study was the low response rate to the survey resulting in a small sample size (n=18). This significantly impacts the validity of the study as additional participants could alter the trends observed. Despite the low response, this study may open doors to future qualitative studies researching what physical therapists perceive are benefits to the use of CPGs, what difficulties they face using CPGs, what they believe could be improved or changed with training clinicians on the use of CPGs, and other influencing factors impacting confidence and competency using CPGs in patient care.

Figure 3. Identification of Sites for Training/Exposure of Clinical Practice Guidelines



Groups based on years of experience and whether participants held specialty certifications were compared on responses to questions regarding the 2012 Low Back Pain CPG⁵ and 2021 Low Back Pain CPG Revision.⁶ Overall, there were no significant associations between groups on whether experience or specialty training had an impact on their use of CPGs in patient care. Regarding the 2012 Low Back Pain CPG,⁵ most responses from participants were “somewhat

agree” or “agree,” though 30% of the respondents marked “somewhat disagree” at least once to questions regarding the application of this CPG in practice. Though between-group trends were not observed, participants responded more favorably to the 2021 Low Back Pain CPG Revision.⁶ Seventy percent of responses answered “agree” or “strongly agree” to questions regarding confidence, efficacy, and application with the use of the revised CPG.

Demographic Information

Please provide answers to the following questions.

1. Which of the following describes your entry-level physical therapy degree?

- ☐ Bachelor's
- ☐ Master's
- ☐ Doctorate

2. What other advanced degrees have you earned?

- ☐ PhD
- ☐ D Ed
- ☐ D HS
- ☐ Other (please specify)

3. Select which category best describes your years of practice?

- ☐ 0-5 years
- ☐ 6-15 years
- ☐ 16-25 years
- ☐ 26+ years

4. Specialty certifications

- ☐ Cardiovascular and pulmonary
- ☐ Clinical electrophysiology
- ☐ Geriatrics
- ☐ Neurology
- ☐ Oncology
- ☐ Orthopaedics
- ☐ Pediatrics
- ☐ Pelvic health
- ☐ Sports
- ☐ Wound Care
- ☐ Other (please specify)
- ☐ N/A

Current Practice Information:

Please select the best answer/provide answers to the following questions.

5. Practice setting (select all that apply)

- ☐ Outpatient
- ☐ Inpatient
- ☐ Skilled nursing facility
- ☐ Home health
- ☐ School-based
- ☐ Education
- ☐ Other (please specify)

6. Patient population

Age groups (select all that apply)

- ☐ 0-17

- ☐ 18-34
- ☐ 35-49
- ☐ 50-64
- ☐ 65+

Body system conditions (select all that apply)

- ☐ Musculoskeletal
- ☐ Neuromuscular
- ☐ Cardiopulmonary
- ☐ Other (please specify)

7. I have received training on the use of clinical practice guidelines (CPGs).

- ☐ Yes
- ☐ No

8. Where did you receive training for/exposure to the use of CPGs? (select all that apply)

- ☐ PT school
- ☐ Continuing education course
- ☐ Colleague
- ☐ Clinical instructor
- ☐ Student mentee
- ☐ Research article
- ☐ Other (please specify)

9. I currently utilize/employ CPG recommendations in my clinical practice.

- ☐ Yes
- ☐ No

If you answered "No" to question #9, you have completed the survey and can leave the remaining questions blank.

10. I feel that the training I received on the use of CPGs was adequate for me to apply to my clinical practice.

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Strongly Agree

Strongly Disagree

11. I utilize CPG recommendations frequently in clinical practice.

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Strongly Agree

Strongly Disagree

12. I feel confident using CPG recommendations to treat patients.

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Strongly Agree

Strongly Disagree

13. I have received training on/exposure to the 2012 Low Back Pain CPG by Anthony Delitto et al.

- ☐ Yes
☐ No

If you answered "No" to question #13, skip to question #21.

14. I feel that the utilization of this CPG improves my patients' outcomes.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

15. I feel that this CPG is easy to read and understand.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

16. I feel that the intervention recommendations in this CPG accurately reflect their efficacy in clinical use.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

17. I feel that the recommendations are easy to apply to clinical practice.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

18. I feel that utilizing this CPG has improved my clinical reasoning skills.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

19. I feel confident utilizing the recommendations in this CPG in my clinical practice.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

20. Based on the CPG recommendations, I utilize the following interventions to treat patients with low back pain (check all that apply):

- ☐ Manual therapy
☐ Trunk coordination, strengthening, and endurance exercises
☐ Centralization and directional preference exercises and procedures
☐ Flexion exercises
☐ Lower-quarter nerve mobilization
☐ Traction

- ☐ Patient education and counseling
☐ Progressive endurance exercise and fitness activities

21. I utilize the following low back treatment protocol/classification to treat patients with low back pain (select all that apply).

- ☐ McKenzie Therapy Classifications
☐ Maitland Concept
☐ Kaltenborn-Evjenth Orthopedic Manual Therapy
☐ Other (please specify)

22. I utilize the following interventions to treat patients with low back pain (select all that apply):

- ☐ Manual therapy
☐ Trunk coordination, strengthening, and endurance exercises
☐ Centralization and directional preference exercises and procedures
☐ Flexion exercises
☐ Lower-quarter nerve mobilization
☐ Traction
☐ Patient education
☐ Progressive endurance exercise and fitness activities
☐ Other (please specify)

Delitto et al. released their revisions to the LBP CPG on October 31, 2021. If you are familiar with the updated CPG, please answer all of the remaining questions. If you are not, please skip to question #31 to complete the survey.

23. I feel that this CPG is easy to read and understand.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

24. I feel that the recommendations are easy to apply to clinical practice.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

25. I feel confident utilizing the recommendations in this CPG in my clinical practice.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

26. I feel the revisions have improved my knowledge on the treatment of low back pain.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Strongly Agree

Strongly Disagree

CONCLUSION

The goal of this exploratory study was to survey physical therapists on their educational exposure and utilization of the 2012 Low Back Pain CPG⁵ and 2021 Low Back Pain CPG Revision⁶ in patient care, as well as CPGs in general. Trends were observed when comparing years of experience to use of CPGs in clinical practice, training on the use of CPGs, and where participants received training/exposure to CPGs. Updates made in the 2021 Low Back Pain CPG Revision⁶ showed an increase in confidence using the CPG in clinical practice compared to 2012 Low Back Pain CPG.⁵ The extent to which these trends are valid is limited by the

small sample size of the study. Future studies with a larger sample size could provide more insight into the perspectives of practicing physical therapists on the advantages and disadvantages of the use of CPGs in patient management with the hope of continuing to improve upon the development of CPGs within the physical therapy profession.

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Appendix A. Continued

27. I utilize the following exercise interventions with patients with low back pain (select all that apply):

- ☐ Trunk coordination, strengthening, and endurance exercises
- ☐ Specific trunk muscle activation exercise
- ☐ Movement control exercise
- ☐ General exercise
- ☐ Trunk mobility exercise
- ☐ Aerobic exercise
- ☐ Multimodal exercise

28. I utilize the following manual therapy interventions with patients with low back pain (select all that apply):

- ☐ Thrust and non-thrust mobilization
- ☐ Soft tissue mobilization
- ☐ Neural tissue mobilization
- ☐ Massage
- ☐ Dry needling
- ☐ Traction

29. I utilize exercise interventions with the following types of patients (select all that apply):

- ☐ Acute LBP
- ☐ Chronic LBP
- ☐ Older adults with chronic LBP
- ☐ Postoperative LBP

30. I utilize manual therapy interventions with the following types of patients (select all that apply):

- ☐ Acute LBP
- ☐ Chronic LBP

31. Provide any comments you have regarding CPGs and classifications systems for the treatment of low back pain.
