

# [ RESEARCH REPORT ]

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## Kinesio Taping Does Not Provide Additional Benefits in Patients With Chronic Low Back Pain Who Receive Exercise and Manual Therapy: A Randomized Controlled Trial

Low back pain is a significant public health problem<sup>2,8,30</sup> that affects approximately 39% of individuals worldwide at some point in their lifetime.<sup>13,16</sup> Because of this high prevalence, clinical practice guidelines have been developed



in order to summarize the best evidence for the care of these patients.<sup>2,12,24</sup> Several interventions commonly used by physical therapists, such as manual therapy

techniques and exercises, are endorsed in most guidelines as effective treatments for patients with low back pain<sup>2,12,24</sup>; however, the effect of these techniques is, at best, moderate.<sup>10,12,15</sup> Therefore, new interventions have been tested in order to enhance the effects of existing treatments.

One method that has long been used to treat patients, from those in rehabilitation clinics to Olympic athletes, is Kinesio Taping. The Kinesio Taping method was introduced at the Olympic Games in Athens and has since gained in popularity.<sup>19</sup> One of the main objectives of the method, according to its creators, is to reduce pain by inhibiting the nociceptive stimuli with elastic tape.<sup>18,19</sup>

The evidence of the benefits that Kinesio Taping can provide for patients with chronic low back pain is still scarce. To date, 4 randomized controlled trials have been published,<sup>5,20,27,29</sup> 2 of which did

- **STUDY DESIGN:** Randomized controlled trial.
- **BACKGROUND:** Many clinical practice guidelines endorse both manual therapy and exercise as effective treatment options for patients with low back pain. To optimize the effects of the treatments recommended by the guidelines, a new intervention known as Kinesio Taping is being widely used in these patients.
- **OBJECTIVES:** To determine the effectiveness of Kinesio Taping in patients with chronic nonspecific low back pain when added to a physical therapy program consisting of exercise and manual therapy.
- **METHODS:** One hundred forty-eight patients with chronic nonspecific low back pain were randomly allocated to receive 10 (twice weekly) sessions of physical therapy, consisting of exercise and manual therapy, or the same treatment with the addition of Kinesio Taping applied to the lower back. The primary outcomes were pain intensity and disability (5 weeks after randomization) and the secondary outcomes were pain intensity, disability (3 months and 6 months after randomization), global perceived effect, and satisfaction

with care (5 weeks after treatment). Data were collected by a blinded assessor.

- **RESULTS:** No between-group differences were observed in the primary outcomes of pain intensity (mean difference, -0.01 points; 95% confidence interval [CI]: -0.88, 0.85) or disability (mean difference, 1.14 points; 95% CI: -0.85, 3.13) at 5 weeks' follow-up. In addition, no between-group differences were observed for any of the other outcomes evaluated, except for disability 6 months after randomization (mean difference, 2.01 points; 95% CI: 0.03, 4.00) in favor of the control group.

- **CONCLUSION:** Patients who received a physical therapy program consisting of exercise and manual therapy did not get additional benefit from the use of Kinesio Taping.

- **LEVEL OF EVIDENCE:** Therapy, level 1b. Prospectively registered May 28, 2013 at [www.ClinicalTrials.gov](http://www.ClinicalTrials.gov) (NCT01866332). *J Orthop Sports Phys Ther* 2016;46(7):506-513. Epub 6 Jun 2016. doi:10.2519/jospt.2016.6590

- **KEY WORDS:** exercise, manual therapy, tape

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not perform sample-size calculation or conduct medium- and long-term follow-up,<sup>5,27</sup> and 3 of which only analyzed the isolated effect of this technique versus sham taping<sup>5,29</sup> or exercise.<sup>27</sup> Among the published systematic reviews,<sup>3,17,22,23,28</sup> the most recent<sup>28</sup> included 12 studies whose quality ranged from low to very low, according to the GRADE (Grading of Recommendations Assessment, Development and Evaluation) system adopted by the Cochrane Collaboration.<sup>14</sup> The results of this review indicate that there is no current evidence to support the use of this method.<sup>28</sup> “Low quality” in the GRADE system means that new studies have the potential to modify the results of current evidence.<sup>14</sup> All systematic reviews published to date indicate the need for new randomized controlled trials with medium- to long-term follow-up and low risk of bias.<sup>3,22,23,28</sup> Most important, no studies have investigated the addition of Kinesio Taping to a physical therapy program consisting of exercise and manual therapy.

Therefore, the objective of this randomized controlled trial was to compare the effectiveness of adding Kinesio Taping to a physical therapy program in patients with chronic nonspecific low back pain.

## METHODS

### Study Design

**T**HIS IS A 2-ARM, RANDOMIZED CONTROLLED TRIAL WITH A BLINDED ASSESSOR. This clinical trial was approved by the Research Ethics Committee of Universidade Cidade de São Paulo (protocol 254.063) and prospectively registered at [www.ClinicalTrials.gov](http://www.ClinicalTrials.gov) (NCT01866332). All methodological details of this trial were published before the start of the data collection.<sup>1</sup>

### Participants

The participants were recruited and treated at the rehabilitation department of Irmandade da Santa Casa de Misericórdia de São Paulo (São Paulo, Brazil) from June 2013 to November 2014.

To be eligible, patients (of either sex) had to be aged 18 to 60 years, experiencing chronic nonspecific low back pain for more than 3 months, and seeking physical therapy treatment. Participants were excluded if they were pregnant or had contraindications to physical exercise according to the American College of Sports Medicine,<sup>21</sup> serious spinal pathology, nerve root compromise, contraindication to the use of Kinesio Taping due to allergy and intolerance to the tape, or cardiorespiratory disease.

### Outcomes and Follow-up

Prior to randomization, a blinded assessor collected the data at baseline using an evaluation form with questions on clinical and sociodemographic characteristics, as well as the following outcome measures:

1. Numeric pain-rating scale,<sup>9</sup> which assesses pain intensity. This is an 11-point scale ranging from 0 (no pain) to 10 (the worst possible pain). The participants were instructed to report the level of pain intensity in the last 7 days.
2. Roland-Morris Disability Questionnaire,<sup>9,25</sup> which evaluates the patient's level of disability by assessing disability associated with low back pain. The instrument consists of 24 questions that describe daily tasks that patients have difficulty performing due to low back pain, with scores ranging from 0 to 24, higher scores indicating greater disability.
3. Global perceived effect scale,<sup>9</sup> which assesses the global impression of recovery after receiving the treatment by measuring change in status from the onset of symptoms to the last few days. The instrument is an 11-point numeric scale ranging from -5 (absolutely worse) to 0 (no changes) to +5 (completely recovered).
4. MedRisk Instrument for Measuring Patient Satisfaction With Physical Therapy Care,<sup>4,11</sup> which is a 13-item questionnaire that assesses satisfaction with physical therapy care. Each

item varies from 1 (strongly disagree) to 5 (absolutely agree), with higher scores indicating greater patient satisfaction. This instrument is divided into 3 dimensions: (1) interpersonal, including 6 items related to the patient's interaction with therapists and employees; (2) convenience and efficiency, containing 3 items related to time of appointment and courtesy; and (3) patient education, containing 2 items related to the therapist's dedication and 2 global items. The score varies from 1 to 5 points, with higher scores representing higher satisfaction with care.

All scales and questionnaires have been translated and cross-culturally adapted to the Brazilian population, and their respective measurement properties have been assessed.<sup>9,11,25</sup> These measures are recommended by an expert committee on low back pain as essential instruments for all clinical trials that include patients with low back pain.<sup>6</sup>

The primary outcome measures were pain intensity and disability measured at 5 weeks after randomization (immediately after treatment). The secondary outcome measures were pain intensity and disability at 3 and 6 months after randomization and global perceived effect at 5 weeks, 3 months, and 6 months after randomization. Another secondary outcome evaluated was satisfaction with care at 5 weeks after randomization. All baseline assessments were conducted in person, but the vast majority of data collected during the follow-up assessments were collected over the phone.

All patients deemed eligible for the study were tested for allergic reaction to the Kinesio Tape (Kinesio Holding Corporation, Albuquerque, NM) prior to randomization. The test consisted of applying a small piece of Kinesio Tape to the thoracic spine of patients and leaving it for 24 hours. If the participants developed allergies or intolerance to the tape, they were excluded from the study. If they did not, they were allocated to one of the treatment groups.

## [ RESEARCH REPORT ]



**FIGURE 1.** Application of Kinesio Tape. The initial anchor point was applied to the S1 region (0% tension). Subsequently, the participant was asked to flex the trunk, and the tape was applied over the skin of the T12 vertebra at 10% to 15% tension (paper-off tension). The final anchor point was fixed directly above T12 (0% tension), according to the principles of the technique.<sup>18,19,29</sup>

### Randomization and Interventions

Immediately after the allergy test, the therapist completed a checklist to determine whether the eligibility criteria of patients were correct, then opened the randomization envelope prior to starting the first session of treatment. The randomization sequence was created using Microsoft Excel (Microsoft Corporation, Redmond, WA) and sealed in sequentially numbered, opaque envelopes by a researcher who was not involved in the assessment or treatment of patients. Once the envelope was opened, the patient was allocated to 1 of 2 groups: physical therapy or physical therapy plus Kinesio Taping.

Both groups received physical therapy treatment consisting of exercise and manual therapy. The therapists could apply the manual therapy techniques that were appropriate to the patient (including joint mobilization and myofascial release), as well as general exercise (eg, aerobic exercise and strengthening of the large muscle groups such as rectus abdominis and gluteus maximus) and specific exercises to strengthen the lumbar spine (eg, strengthening of transversus abdominis and lumbar multifidus). The decision to use 1 or more resources was pragmatic; that is, the therapist would decide what procedures to use at each session based on clinical reasoning.

These techniques were applied according to the clinical presentation of each patient, as routinely assessed by the therapist. The objectives of the in-

terventions were reducing pain intensity, muscle strengthening, improving motor control, and promoting the independence of the participant.

The group that received physical therapy plus Kinesio Taping had the elastic tape applied to the lower back at the end of the sessions. Prior to application, the area was shaved (if necessary) and cleansed to improve adherence. The Kinesio Tape was positioned bilaterally on the erector spinal muscles parallel to the spinous processes of the lumbar vertebrae (FIGURE 1).

After that, the participant was instructed to leave it on for 48 hours and return to normal activities, such as bathing, doing household chores, working, etc. If the participant developed any kind of skin reaction, he or she was instructed to remove the tape.

The sessions were 30 to 60 minutes long, twice a week for 5 weeks. All participants were instructed to do the muscle-strengthening exercises at home, once a day (3 sets of 10 repetitions for each exercise); however, these home exercises were not monitored. A total of 3 physical therapists with an average of 6 years of clinical experience participated in this trial. All were trained in manual therapy (Maitland's approach). The corresponding author (L.C.M.C.) is certified by the Kinesio Taping Association International (levels KT1 and KT2) and provided training to the therapists on how to apply the Kinesio Tape. All therapists were formally trained for a period of 1 week in order

to standardize the approach. All senior authors (L.O.P.C., L.C.M.C., D.G.F., and T.Y.F.) audited the interventions over the trial period.

### Blinding

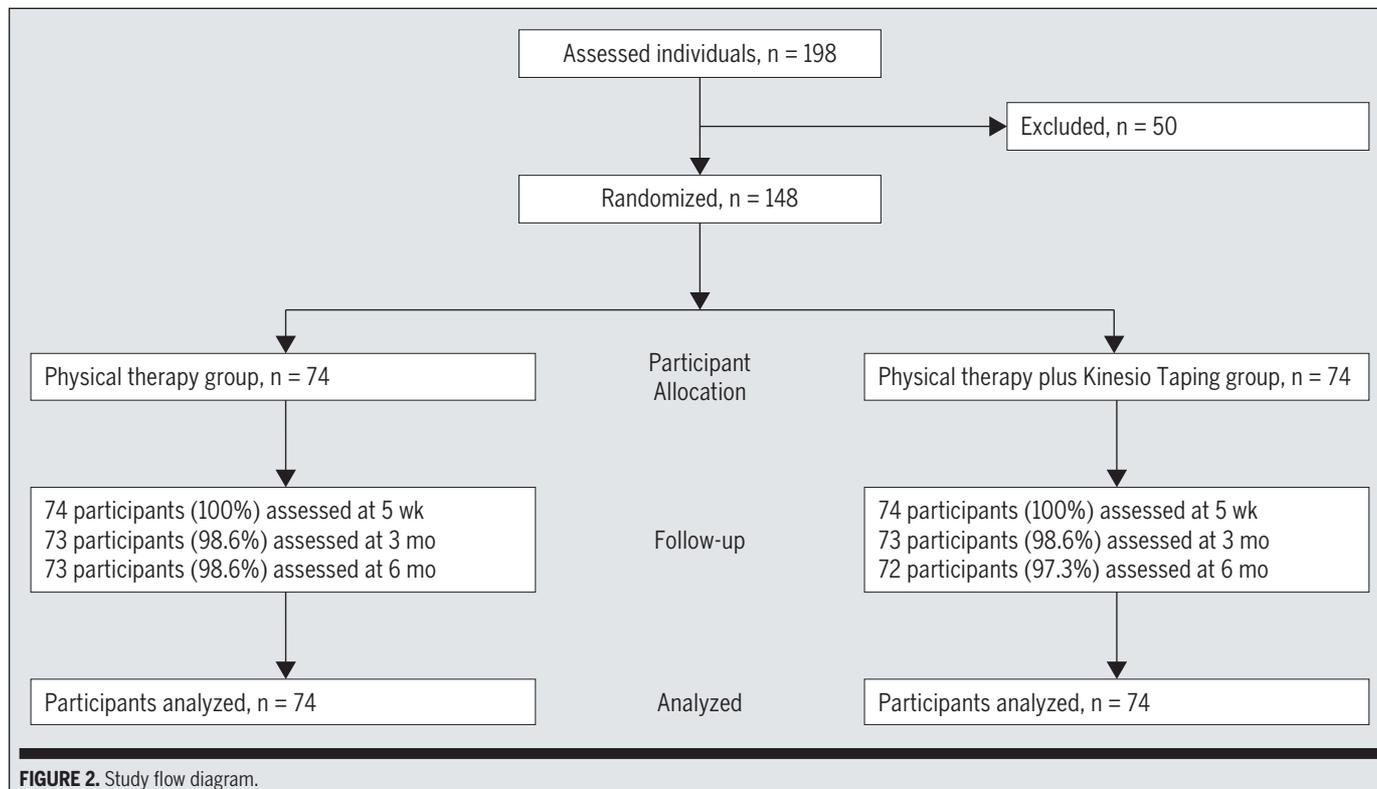
In this study, the assessor was blinded to the allocation of participants in their respective groups; however, given the nature of the interventions, it was not possible to blind both the therapists and the patients.

### Sample-Size Calculation

The sample-size calculation was based on the detection of a 1-point difference between groups for the outcome of pain intensity, assessed by the numeric pain-rating scale (estimated SD of 1.84), and a 4-point difference for the outcome of disability, measured by the Roland-Morris Disability Questionnaire (estimated SD of 4.9),<sup>10</sup> with a statistical power of 80%, alpha of 5%, and possible sample loss of up to 15%. Therefore, 74 participants were needed per group (148 in total).

### Statistical Analysis

All statistical procedures were performed according to the principles of intention to treat. First, we conducted descriptive analyses and histogram inspections to determine data normality (or lack thereof). The between-group comparisons to obtain the mean effects were conducted by means of interaction terms (group versus time interactions) using linear mixed models. The statistical analysis was



conducted by a researcher who was not involved in any of the phases of data collection and received data in coded form. The differences were considered statistically significant at  $P < .05$ . The software package SPSS 19 (IBM Corporation, Armonk, NY) was used for these analyses.

## RESULTS

**A** TOTAL OF 198 POTENTIAL PARTICIPANTS sought treatment for back pain over the course of the study. Of this total, 50 were considered ineligible (FIGURE 2). The reasons for exclusion were back pain due to nerve root compromise ( $n = 17$ ), decompensated heart disease ( $n = 6$ ), withdrawal prior to the start of the study ( $n = 5$ ), age above 60 years ( $n = 3$ ), vertebral fracture ( $n = 3$ ), previous surgery to the lumbar spine ( $n = 2$ ), knee surgery scheduled for the study period ( $n = 2$ ), no telephone number for follow-up ( $n = 2$ ), lower-limb tumor ( $n = 1$ ), acute low back pain ( $n = 1$ ), contraindications to the use of Kinesio Taping ( $n = 1$ ), pain in the thoracic spine ( $n = 1$ ), scheduled bone marrow

transplant during the treatment period ( $n = 1$ ), multiple myeloma in the spine ( $n = 1$ ), chemotherapy ( $n = 1$ ), anxiety ( $n = 1$ ), already receiving physical therapy treatment ( $n = 1$ ), and hepatomegaly ( $n = 1$ ).

Regarding the number of sessions, of the 1480 predicted sessions ( $n = 148 \times 10$  sessions), only 47 absences were recorded (3.17%). On average, each patient attended  $9.70 \pm 1.00$  sessions for the physical therapy group and  $9.66 \pm 1.17$  sessions for the physical therapy plus Kinesio Taping group, which represents an excellent adherence to treatment. The groups did not differ in their adherence ( $P = .82$ ). In 5 cases (6.7%), some type of skin irritation occurred due to the application of the Kinesio Tape; however, this irritation subsided before the following session and did not prevent the participants from completing the study. One participant from the physical therapy group was mistakenly treated with Kinesio Tape starting in the fifth session, but was analyzed in his original group following the recommendations of intention-to-treat analysis.

During the 3-month reassessment,

a participant in the group that received physical therapy plus Kinesio Taping declined to answer the questionnaires due to high pain intensity and because he wanted to receive more sessions than the protocol allowed. There were only 3 losses to follow-up, which reflects an excellent follow-up rate (FIGURE 2).

TABLE 1 shows the demographic characteristics of the participants in their respective groups. The study included mainly single women who had completed primary education. The groups had similar baseline characteristics.

TABLE 2 shows the mean  $\pm$  SD pain intensity, disability, and global perceived effect for all time points. The results indicate that symptoms improved with the interventions and that this improvement was maintained over time. TABLE 3 shows the within- and between-group differences for all outcomes. The within-group analysis found that the treatments reduced pain and disability and increased the participant's perceived improvement (about 35% improvement, which can be considered as clinically important).<sup>26</sup> In

# RESEARCH REPORT

the between-group analysis, however, no differences were observed, except for disability at 6 months in favor of the physical therapy group.

Another outcome evaluated was the satisfaction with care after 5 weeks of treatment. Overall, there was a high degree of satisfaction with care in both groups, with no statistically significant differences between groups.

## DISCUSSION

**T**HIS RANDOMIZED CONTROLLED TRIAL aimed to compare the effectiveness of adding Kinesio Taping to a physical therapy program consisting of exercise and manual therapy in patients with chronic nonspecific low back pain to that of physical therapy alone. After 5 weeks of treatment, the between-group comparisons showed no advantage of using Kinesio Taping in these patients for all primary outcomes. These estimates were maintained over time for all other secondary outcomes, except for disability at 6 months in favor of the control group. Clearly, the addition of Kinesio Taping to physical therapy did not enhance treatment outcomes at any point in time. Another outcome measured was the level of satisfaction with care, which was very high in both groups. Similarly, there were no between-group differences in satisfaction levels.

Currently, there is 1 meta-analysis related to prevention and treatment of sports injuries,<sup>31</sup> and there are 5 systematic reviews, including 2<sup>17,22</sup> with different clinical conditions and 3<sup>3,23,28</sup> that assess musculoskeletal conditions, of the effects of Kinesio Taping. None of the studies cited above provide favorable results for the use of this method. The randomized controlled trials that evaluated the musculoskeletal conditions published to date have moderate methodological quality<sup>22,23,28</sup> and, for the most part, small samples (ie, 42 patients per trial).<sup>28,31</sup> Furthermore, the quality of the evidence against the use of Kinesio Taping<sup>28</sup> varies from low to very low. This reinforces the importance

TABLE 1		SAMPLE CHARACTERISTICS AT BASELINE*		
Variable	All Participants (n = 148)	PT Group (n = 74)	PT Plus KT Group (n = 74)	
Sex, n (%)				
Male	42 (28.4)	21 (28.4)	21 (28.4)	
Female	106 (71.6)	53 (71.6)	53 (71.6)	
Age, y	45.1 ± 11.6	44.6 ± 11.7	45.6 ± 11.6	
Duration of symptoms, mo <sup>†</sup>	48 (107)	36 (94)	48 (108)	
Weight, kg	71.4 ± 13.3	70.2 ± 14.2	72.7 ± 12.2	
Height, m	1.64 ± 0.9	1.64 ± 0.9	1.64 ± 0.9	
Body mass index, kg/m <sup>2</sup>	26.6 ± 4.7	26.1 ± 4.4	27.1 ± 5.0	
Marital status, n (%)				
Single	62 (41.9)	31 (41.9)	31 (41.9)	
Married	60 (40.5)	31 (41.9)	29 (39.2)	
Divorced	16 (10.8)	8 (10.8)	8 (10.8)	
Widowed	7 (4.7)	4 (5.4)	3 (4.1)	
Other	3 (2.0)	0 (0)	3 (4.1)	
Education, n (%)				
Primary	59 (39.9)	30 (40.5)	29 (39.2)	
Secondary	57 (38.5)	33 (44.6)	24 (32.4)	
Undergraduate	23 (15.5)	6 (8.1)	17 (23.0)	
Graduate	3 (2.0)	0 (0)	3 (4.1)	
Masters degree	0 (0)	0 (0)	0 (0.0)	
PhD	1 (0.7)	0 (0)	1 (1.4)	
Use of medication, n (%)	73 (49.3)	39 (52.7)	34 (45.9)	
Recent episode of low back pain, n (%) <sup>‡</sup>	37 (25.0)	20 (27.0)	17 (23.0)	
Regular exercise, n (%) <sup>§</sup>	39 (26.4)	18 (24.3)	21 (28.4)	
Smoking, n (%)	20 (13.5)	12 (16.2)	8 (10.8)	
Medical leave, n (%)	10 (6.8)	7 (9.5)	3 (4.1)	
Paid medical leave, n (%)	4 (2.7)	3 (4.1)	1 (1.4)	
Pain intensity (0-10)	7.5 ± 1.72	7.4 ± 1.69	7.5 ± 1.76	
Global perceived effect (-5 to +5) <sup>  </sup>	-1.57 ± 2.97	-1.3 ± 2.88	-1.8 ± 1.76	
Disability (0-24)	13.5 ± 5.77	14.1 ± 5.95	13.0 ± 5.57	

*Abbreviations: KT, Kinesio Taping; PT, physical therapy.*  
*\*Values are mean ± SD unless otherwise indicated.*  
*†Values are median (interquartile range).*  
*‡Did you have an episode of back pain recently? (yes/no).*  
*§Do you practice any physical activity? (yes/no).*  
*||Compared to when the episode started, how would you describe your back these days?*

of the present study, not only for the scientific community but also for clinicians, because it aims to minimize the risk of bias and use an appropriate sample of pa-

tients in order to better understand the effects of adding Kinesio Taping to the treatment of patients with chronic low back pain. Another strength of this study

**TABLE 2**

DESCRIPTIVE DATA AT BASELINE AND AT 5 WEEKS, 3 MONTHS, AND 6 MONTHS AFTER RANDOMIZATION FOR PAIN INTENSITY, DISABILITY, GLOBAL PERCEIVED EFFECT, AND SATISFACTION WITH CARE\*

Outcome	Baseline		5 wk		3 mo		6 mo	
	PT (n = 74)	PT Plus KT (n = 74)	PT (n = 74)	PT Plus KT (n = 74)	PT (n = 73)	PT Plus KT (n = 73)	PT (n = 73)	PT Plus KT (n = 72)
Pain intensity (0-10)	7.40 ± 1.69	7.55 ± 1.76	4.70 ± 2.77	4.86 ± 3.00	5.91 ± 2.84	5.59 ± 2.76	5.67 ± 2.98	5.74 ± 3.10
Disability (0-24)	14.07 ± 5.95	12.97 ± 5.57	9.03 ± 7.51	9.07 ± 7.56	9.70 ± 7.63	9.46 ± 7.96	8.61 ± 8.20	9.51 ± 7.67
Global perceived effect (-5 to +5) <sup>†</sup>	-1.28 ± 2.88	-1.85 ± 3.05	2.74 ± 2.34	2.30 ± 3.00	1.60 ± 3.17	1.68 ± 3.18	1.15 ± 3.15	0.83 ± 3.58
Satisfaction with care (1-5)								
Interpersonal	...	...	4.7 ± 0.38	4.7 ± 0.37	...	...	...	...
Efficiency/convenience	...	...	4.8 ± 0.59	4.7 ± 0.64	...	...	...	...
Patient education	...	...	4.6 ± 0.81	4.5 ± 0.93	...	...	...	...

Abbreviations: KT, Kinesio Taping; PT, physical therapy.

\*Values are mean ± SD.

<sup>†</sup>Compared to when the episode started, how would you describe your back these days?

is its pragmatic nature regarding the use of exercise and manual therapy. We believe that the results of the present study are generalizable to physical therapists who use these interventions.

Our data corroborate the results of 3 previous randomized controlled trials that do not support the application of Kinesio Taping in patients with chronic nonspecific low back pain. The study by Paoloni et al<sup>27</sup> aimed to evaluate pain intensity and disability in 39 patients with chronic low back pain after 4 weeks of treatment. The patients were allocated into 3 different groups: Kinesio Taping alone, muscle strengthening and relaxation techniques, and a combination of the 2 interventions. As in the present study, the analysis of the results showed no statistically significant difference between groups. Castro-Sánchez et al<sup>5</sup> analyzed pain and disability, as well as muscular endurance and kinesiophobia, in 60 individuals allocated to 2 groups (Kinesio Taping or sham taping) and found no difference in any of the outcomes measured between groups after 4 weeks of intervention. Finally, the study by Parreira et al<sup>29</sup> evaluated the effects of skin convolutions generated by Kinesio Taping, compared to no convolutions, in

**TABLE 3**

WITHIN- AND BETWEEN-GROUP DIFFERENCES AT 5 WEEKS, 3 MONTHS, AND 6 MONTHS AFTER RANDOMIZATION FOR PAIN INTENSITY, DISABILITY, AND GLOBAL PERCEIVED EFFECT\*

	Pain Intensity (0-10)	Disability (0-24)	Global Perceived Effect (-5 to +5)
Within-group differences			
Week 5 – baseline			
PT	2.70 (2.03, 3.38)	5.04 (3.48, 6.60)	-4.03 (-4.83, -3.23)
PT plus KT	2.69 (2.03, 3.35)	3.89 (2.48, 5.30)	-4.15 (-5.12, -3.18)
Month 3 – baseline			
PT	1.50 (0.85, 2.17)	4.31 (2.91, 5.72)	-2.93 (-3.81, -2.05)
PT plus KT	1.99 (1.30, 2.67)	3.49 (2.02, 4.97)	-3.60 (-4.42, -2.78)
Month 6 – baseline			
PT	1.75 (1.03, 2.47)	5.41 (3.60, 7.22)	-2.48 (-3.39, -1.57)
PT plus KT	1.89 (1.18, 2.59)	3.61 (2.20, 5.02)	-2.83 (-3.79, -1.87)
Between-group differences			
Week 5 – baseline			
PT – PT plus KT	-0.01 (-0.88, 0.85)	1.14 (-0.85, 3.13)	-0.12 (-1.30, 1.06)
Month 3 – baseline			
PT – PT plus KT	0.47 (-0.39, 1.34)	0.87 (-1.12, 2.85)	-0.64 (-1.83, 0.54)
Month 6 – baseline			
PT – PT plus KT	0.07 (-0.80, 0.94)	2.01 (0.03, 4.00) <sup>†</sup>	-0.25 (-1.44, 0.94)

Abbreviations: KT, Kinesio Taping; PT, physical therapy.

\*Values in parentheses are 95% confidence interval.

<sup>†</sup>Statistically significant difference.

148 patients and found no difference between the 2 forms of application.

One of the differences between the existing clinical trials is in relation to patient follow-up periods. Paoloni et al<sup>27</sup> and Castro-Sánchez et al<sup>5</sup> included a short-term follow-up period, while the present study conducted follow-ups for up to 6 months from randomization. The 3 clinical trials published to date<sup>5,27,29</sup> evaluated the effect of Kinesio Taping with different objectives: isolated, combined with global strengthening exercises, and the form of application. Our study aimed to replicate clinical practice and add other interventions to the treatment of the participants; therefore, we used resources described in the clinical practice guidelines for the treatment of patients with chronic nonspecific low back pain in order to determine whether the addition of Kinesio Taping would enhance the effects of treatments already supported by the literature. Our results show that there is not an additive effect between Kinesio Taping and physical therapy consisting of manual therapy and exercise.

## Study Limitations

This study followed all steps described in the published protocol,<sup>1</sup> with no deviations from the trial protocol. The study design aimed to minimize most sources of risk of bias. However, it was not possible to blind both the therapist and participants, which can be considered a limitation of our study.

Another limitation of our study is related to the replicability of the interventions provided. Although pragmatic and individualized approaches are important, we acknowledge that this approach is difficult to replicate. Finally, although subgroup analysis is considered to be the top research priority<sup>7</sup> in the back pain field, our study was not adequately powered for such analysis. It is possible that some patients would benefit more from Kinesio Taping than others, but we are unaware of studies (even preliminary derivation studies) using this research question.

## CONCLUSION

**T**HE LITERATURE SUGGESTS THAT THE use of Kinesio Taping in isolation provides no benefit to patients with chronic low back pain.<sup>20,29</sup> Similarly, its use as an additional method in a treatment program based on exercise and manual therapy did not alter the outcomes, as shown by the results of our study. ●

## KEY POINTS

**FINDINGS:** In patients with back pain who received physical therapy consisting of exercises and manual therapy, this study did not identify an additional benefit from the use of Kinesio Taping.

**IMPLICATIONS:** Patients with low back pain will not get additional benefit from the use of Kinesio Taping if they receive a treatment consisting of individualized exercises and manual therapy.

**CAUTION:** As our approach was pragmatic and individualized, it is possible that our approach could not be fully replicated.

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