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Effectiveness of Kinesio Taping® in patients with chronic non-specific low back pain: a systematic review with meta-analysis

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Abstract

Study Design: Systematic review.

Objectives: To investigate the effects of Kinesio Taping® (KT) in patients with non-specific low back pain.

Summary of Background Data: KT is widely used in patients with low back pain.

Methods: We conducted searches on PubMed, EMBASE, PEDro, SciELO and LILACS up to February 26th, 2018. We included only randomized controlled trials (RCTs) in adults with chronic non-specific low back pain that compared KT to no intervention or placebo as well as RCTs that compared KT combined with exercise against exercise alone. The methodological quality and statistical reporting of the eligible trials were measured by the 11-item PEDro scale. The quality of the evidence was assessed using the GRADE classification. We considered pain intensity and disability as the primary outcomes. Whenever possible, the data were pooled through meta-analysis.

Results: We identified eleven RCTs for this systematic review (pooled n=743). Two clinical trials (pooled n=100) compared KT to no intervention at the short-term follow-up. Four studies compared KT to placebo (pooled n=287) at short-term follow-up and two trials (pooled n=100) compared KT to placebo at intermediate-term follow-up. Five trials (pooled n=296) compared KT combined with exercises or electrotherapy to exercises or spinal manipulation alone. No statistically significant difference was found for most comparisons.

Conclusions: Very low to moderate quality evidence shows that KT was no better than any other intervention for most the outcomes assessed in patients with chronic non-specific low back pain. We found no evidence to support the use of KT in clinical practice for patients with chronic non-specific low back pain.

Key Words: low back pain; bandage; physical therapy; kinesio taping; tape; rehabilitation; systematic review; meta-analysis

Level of Evidence: 1
INTRODUCTION

Low back pain is the most common musculoskeletal condition worldwide\(^1\). Approximately 18% of the world’s population suffers from low back pain and about 39% will suffer at least one episode of low back pain in their lifetime\(^2\). Consequently, the costs associated with the treatment of patients with low back pain\(^3\), absence from work\(^4\), and disability\(^5\) are extremely high.

Kinesio Taping\(^6\) (KT) is a widely used treatment in patients with musculoskeletal disorders\(^6\). KT was created in 1973 by Kenzo Kase\(^7,8\). The biological rationale for using KT is based upon the capability of the tape in generating convolutions in the skin. These convolutions would reduce the pressure in the mechanoreceptors located below the dermis, reducing the nociceptive stimuli and therefore, reducing pain and improving blood flow\(^8\). This mechanism would explain the likely improvement of symptoms in patients with low back pain\(^8,9\). KT became widely known during the Olympic Games in Beijing, when the tape was freely distributed to more than 58 of the participating delegations\(^10\). Later in London Olympic Games, free distribution reached over 80 delegations\(^10\), increasing the interest of health professionals who started using the technique in clinical practice. Simultaneously, there was an increase in published clinical trials assessing the efficacy of KT in different musculoskeletal conditions\(^11-14\).

Some systematic reviews on KT in different musculoskeletal conditions have been previously published\(^6,15-22\). However, the only systematic review\(^23\) on the effectiveness of KT in patients with chronic non-specific low back pain did not present any meta-analysis, and a good number of new trials\(^10,24-26\) have been published since then. Therefore, an updated systematic review is needed to inform clinicians and patients about the possible effects of this intervention. We aimed to systematically review the current evidence on the effectiveness of KT in patients with non-specific low back pain.

METHODS

Registration

This systematic review was prospectively registered in the International prospective register of systematic reviews - PROSPERO (registration number CRD42016042601).

Inclusion Criteria

Study design and participants

We included only randomized controlled trials (RCTs) that evaluated the effectiveness of KT in patients with chronic non-specific low back pain. Participants should present an episode of chronic pain
lasting at least 12 weeks\textsuperscript{27}. Trials that did not report the duration of symptoms were not included in the review. Trials that included participants with acute and chronic pain were included only if data from the chronic population were reported separately.

\textit{Types of Interventions}

The comparisons of interest were: KT versus no intervention; KT versus placebo; and KT versus other interventions. Studies that assessed the addition of KT to another intervention were also included.

\textit{Outcomes}

To be included in this review, studies had to assess pain intensity and/or disability. Pain and disability could have been assessed by any previously validated questionnaire. No other outcomes were considered for this review. Pain and disability are considered the most important outcomes for patients with low back pain according to a Delphi study conducted by specialists in low back pain\textsuperscript{28,29}.

\textit{Search strategy}

To identify the studies, searches were conducted on PubMed, Embase (Via Ovid), PEDro, SciELO and LILACS up to February 26\textsuperscript{th}, 2018. The search terms used were based on the strategies suggested by the Cochrane Back and Neck Review Group (Appendix 1), and the searches were adjusted for each database. We also searched the list of references from previous systematic reviews and from the clinical trials eligible for this review. There was no restriction regarding the language and date of publication of the potential eligible studies.

\textit{Selection of studies}

Two independent reviewers selected the studies by reading the title, abstract, and full texts. Any disagreement between the reviewers were resolved by consensus, and if necessary, a third reviewer was asked to decide on the inclusion of the studies.

\textit{Data extraction}

Data related to the number and characteristics of participants (age and duration of symptoms) were extracted; as well as description of the intervention and the different comparisons; tools used to assess the outcomes; time of follow-up and results of the studies. When necessary, the authors of the included studies were contacted to request additional information on the data. Finally, we also collected information on funding as well as with regards to side effects associated with the KT use.
Quality Assessment

The methodological quality and statistical reporting of the included studies were assessed using the PEDro scale\(^{30,31}\). Whenever possible the PEDro scores were extracted from the PEDro database itself. When the articles were not found in the PEDro database, two trained independent reviewers assessed the article with the PEDro scale. This scale has 11 items: eight items relate to methodological quality (i.e., random allocation, concealed allocation, baseline comparability, blinded subjects, blinded therapists, blinded assessors, adequate follow-up, and intention-to-treat analysis) and two items relate to the statistical reporting (between-group comparisons and point estimates and variability)\(^{30,31}\). The first item (eligibility criteria) is related to the external validity and is not included in the total score, which ranges from 0 to 10. The studies were considered of high quality if they had scores equal to or greater than 6. Studies with scores lower than 6 were considered as having low quality\(^{30}\).

Assessment of heterogeneity

The presence of heterogeneity was evaluated using the Chi\(^2\) test and the I\(^2\) statistic. This statistic illustrates the percentage of variability in effect estimates from heterogeneity rather than sampling error\(^{32,33}\). When considerable statistical heterogeneity was detected (I\(^2\) more than 50%), we downgraded the evidence for inconsistency in the quality of evidence assessment.

Assessment of publication bias

We planned to estimate the likelihood of publication bias using funnel plots when there were more than ten studies in the same comparison. However, this was not possible due the low number of included studies for each comparison.

Data analysis and synthesis

The mean difference between groups and the respective 95% confidence intervals were calculated and used to quantify the effect of continuous outcomes. For the meta-analyzes in which the studies used the same scales, the results were presented as mean difference (MD) and 95% confidence intervals. Otherwise, the effects were calculated using standardized mean difference (SMD) and 95% confidence intervals. The effect size of the interventions was defined as small (MD < 10% of the scale or SMD < 0.4); moderate (MD = 10% to 20% of the scale or SMD = 0.41 to 0.7) or large (MD > 20% of the scale or SMD > 0.7)\(^{34}\). The effect was considered clinically important, when there was an improvement of at least 20% of the magnitude of the effect for the between-group analyses\(^{35}\). When possible, effects were summarized for the following time periods: short-term (closest to 4 weeks after randomizations); intermediate-term (closest to 12 weeks after randomization); and long-term follow-up (closest to one year after randomization). Regardless of the
heterogeneity among the studies included in the meta-analyses, only the random effects model was adopted according to the recommendations of the Guidelines for Systematic Reviews from the Cochrane Back and Neck Review Group.36

The overall quality of the evidence was rated in accordance with the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE).37 GRADE has five domains to establish the quality of evidence: 1) Study design and risk of bias, when more than 25% of the included studies present low methodological quality; 2) Inconsistency; 3) Indirectness; 4) Imprecision and; 5) Other factors (e.g., reporting bias, publication bias). The quality of the evidence was classified as: High quality of evidence: When there were consistent results within at least 75% of the clinical trials of good methodological quality, presenting consistent, direct, and precise data with no suspicious or known publication bias. Further research is unlikely to alter the estimate or the confidence in the results; Moderate quality of evidence: When at least one domain is not met. New research is likely to have a significant impact on the confidence in the effect estimate; Low-quality evidence: When two of the domains are not met. Further research is likely to have a significant impact on the confidence in the effect estimate and is likely to alter the estimate; Very low-quality evidence: When three domains are not met. The results will be highly uncertain. When necessary, sensitivity analyses were also performed. Two aspects were taken into account: the methodological quality of the studies (excluding the studies considered as 'high risk'); or high heterogeneity of included studies (excluding studies with excessive heterogeneity).

RESULTS

Selection and characteristics of studies

The search generated a total of 219 potentially eligible articles. After applying the inclusion criteria, eleven trials10,24-26,40-46 were considered eligible and were included in the review. The number of participants by study varied from 20 to 148, with a total of 743 participants. The descriptive characteristics of the selected articles are presented in Table 1. Two trials24,46 received funding form research agencies. Only two trials24,46 collected data on side effects. These trials found only minor allergic reactions in 2% of the sample.

Eleven trials10,24-26,40-46 were included in this review, one of which was reported in two separately manuscripts.46,47 Three trials10,24,46 were conducted in Brazil, two42,48 in Saudi Arabia, one in Turkey,44 one in Korea,40 one in Poland,26 one in Spain,41 one in Italy,45 and one in Iran.43 All included trials assessed pain intensity with pain scales varying from 0 to 10 (pain numeric rating scale49 or visual analog scales50). In terms of disability, four trials40,44,48,51 used the Oswestry Disability Index (ODI), five10,24,42,45,46 used the Roland Morris Disability Questionnaire (RMDQ), and one41 used both questionnaires.
Two trials \cite{40,45} assessed the patients immediately after intervention; three trials \cite{10,26,41} assessed the patients one week after the randomization; one trial \cite{48} assessed the patients two weeks after the randomization; two trials \cite{25,46} assessed the patients four weeks after the randomization, and two trials \cite{24,41} assessed the patients five weeks after randomization. Only three trials \cite{24,40,46} assessed patients at intermediate-term (i.e; 12 weeks after randomization).

**Quality assessment**

The scores of quality assessment are described in Table 2. Nine studies \cite{24,40-42,44-46,48,51} were identified in the PEDro database. The PEDro score ranged from 3 to 9, with a mean score of 6.8 (SD=2.0) on a scale of 0 to 10 (Table 2). Seven trials were considered as having a high quality \cite{10,24,25,41,43,45,46}.

**Treatment Effects**

**Comparison between KT and no intervention for pain intensity**

Short-term (closest to 4 weeks)

Two trials \cite{10,26} compared KT to no intervention and there is very low quality evidence (downgraded by methodological quality, inconsistency, and imprecision) that there was no significant between-group difference (MD= -0.49; 95% CI -1.99 to 1.01; p=0.52, n=100) (Figure 2A).

**Comparison between KT and placebo for pain intensity and disability**

Short-term (closest to 4 weeks)

Four trials \cite{10,41,46,48} compared KT to placebo in the short term. All trials assessed pain and disability. For the outcome pain, there is very low quality evidence (downgraded by inconsistency, imprecision, and publication bias) that there was no significant between-group difference (MD= -1.13; 95% CI -2.41 to 0.15, p=0.08) (Figure 2B).

For disability, there is low quality evidence (downgraded by imprecision and publication bias) that there was no significant between-group difference (SMD=-0.14, 95% CI -0.72 to 0.45, p=0.65) (Figure 2C).

**Sensitivity analysis**

A sensitivity analysis was performed due to the presence of an article \cite{48} with excessive heterogeneity for both pain and disability outcomes. This trial may present inconsistent data, according to a letter from the editor \cite{52}. The sensitivity analyses showed that the exclusion of this article from the main analysis resulted in a
small, clinically not important effect in favor of KT for pain in the short-term (MD=-0.59, 95% CI -1.07 to -0.10, p=0.02) (Figure 3A). For the outcome disability (MD=0.99; 95% CI -0.11 to 2.09, p=0.08) (Figure 3B), the sensitivity analysis showed no significant between-group difference.

Intermediate-term (closest to 12 weeks)

Two trials\textsuperscript{53,54} compared KT to placebo in the intermediate term and both assessed pain and disability. For pain, there is low quality evidence (downgraded by imprecision and publication bias) that there was no significant between-group difference (MD=-0.18; 95% CI 0.73 to 0.37, p=0.52) (Figure 4A).

For the outcome disability, there is very low quality evidence (downgraded by methodological quality, inconsistency, and imprecision) that there was no significant between-group difference (SMD=-0.34, 95% CI -1.42 to 0.75, p=0.54) (Figure 4B).

Comparison between exercise plus KT and Physiotherapy for pain intensity and disability

Short-term (closest to 4 weeks)

Five trials\textsuperscript{24,42,44,45,51} compared the use of KT combined with physical therapy (PT) and assessed both pain and disability. For pain, there is very low quality evidence (downgraded by methodological quality, inconsistency and imprecision) that there was no significant between-group difference (MD=-0.01, 95% CI -1.39 to 1.36, p=0.98) (Figure 5A).

For disability, there is very low-quality evidence (downgraded by methodological quality, inconsistency and imprecision) that there was no significant between-group difference (SMD=0.14; 95% CI -0.33 to 0.61, p=0.56) (Figure 5B).

Sensitivity analysis

Sensitivity analyses were performed due to the presence of a study with low methodological quality (between group levels of pain and disability not comparable at baseline)\textsuperscript{42}. However, the difference between groups remained statistically non-significant for both outcomes.

DISCUSSION

This is the first systematic review with meta-analysis aimed to assess the effectiveness of KT in patients with chronic non-specific low back pain. Eleven clinical trials were included, and in general there is low to very low quality evidence that KT was not superior to no intervention, placebo, other intervention or KT combined
with exercise at any time of the follow-ups. Based on the findings of our systematic review, more studies aiming to evaluate the effects of KT at both intermediate and long term should be conducted as only two trials\textsuperscript{53,54} presented a follow-up period longer than 12 weeks. In addition, the duration of use of KT should be also further investigated as there is no consensus on optimal dosage of this intervention.

This review followed the recommendations from the Methods Guidelines for Systematic Reviews of the Cochrane Back and Neck Review Group\textsuperscript{36}. Most of the clinical trials included in this review presented good methodological quality. A highly sensitive search strategy was used to identify studies in the main databases and was complemented by a manual search in studies relevant to the topic, as well as in clinical trial registries. For the present review, there was no restriction of language of included studies, thus minimizing publication and language bias. However, it is possible that studies that are only indexed in local databases were missed and were consequently not included in this review. The quality of the evidence was carefully assessed according to GRADE recommendations\textsuperscript{37}, which generates a precise level of confidence of our results.

In recent years, many systematic reviews\textsuperscript{6,15,17,18,20,55,56} assessing the effectiveness of KT in musculoskeletal conditions were published. Most of these publications either reported results not favorable to the use of KT or stated that the current evidence is insufficient to support its use in clinical practice. Nelson et al.\textsuperscript{23} published a review in which they assessed the effectiveness of KT in patients with low back pain with screening up to June 2015, thus they did not include more recently published studies\textsuperscript{24-26,52} that were included in the current review. In addition, they did not present a meta-analysis. These authors reported that the benefits were small and recommended that future studies use KT as an additional therapy. In contrast to this recommendation, our study, found that KT did not provide benefits when combined with physical therapy. Vanti et al.\textsuperscript{57} reported in their systematic review that the evidence does not support the use of taping (KT, functional fascial taping, non-elastic tape) for the treatment of spinal pain, which corroborates with the results of our review.

However, as the quality of evidence for most comparisons ranged from very low to low and the number of trials for each comparison small, our results should be interpreted cautiously. Despite the findings were not based on high quality evidence, the size of treatment effects of KT found in our review was small in general. This review found insufficient and inconclusive evidence from randomized controlled trials to inform on the role of KT for treating people with chronic low back pain in current clinical practice.
CONCLUSION

Evidence varying from very low to moderate quality shows that Kinesio Taping® was no more effective than no intervention or placebo nor was it effective when used as an adjunct to conventional physical therapy in the treatment of patients with chronic non-specific low back pain. Therefore, this intervention should not be recommended for patients with chronic low back pain.


21. Lim EC, Tay MG. Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks: is it time to peel off the tape and throw it out with the sweat? A systematic review with meta-analysis focused on pain and also methods of tape application. *British journal of sports medicine* 2015.


55. Lim EC, Tay MG. Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks: is it time to peel off the tape and throw it out with the sweat? A systematic review with meta-analysis focused on pain and also methods of tape application. *British journal of sports medicine* 2015;49:1558-66.


Figure 1. Selection of studies for the systematic review.

Figure Legends:
Figure 2. Meta-analysis of short-term comparison for the outcomes (A) pain in trials comparing KT versus control; (B) pain in trials comparing KT versus Placebo; (C) disability in trials comparing KT versus Placebo.
Figure 3. Meta-analysis of short-term comparison: Sensitivity Analysis for the outcomes (A) pain in trials comparing KT versus Placebo; (B) disability in trials comparing KT versus Placebo;
Figure 4. Meta-analysis of intermediate-term for the outcomes (A) pain in trials comparing KT versus Placebo; (B) disability in trials comparing KT versus Placebo;
Figure 5. Meta-analysis of short-term comparison for the outcomes (A) pain in trials comparing Physical Therapy with Kinesio Taping versus Physical Therapy; (B) disability in trials comparing Physical Therapy with Kinesio Taping versus Physical Therapy.
<table>
<thead>
<tr>
<th>AUTHOR et al.</th>
<th>PARTICIPANTS</th>
<th>Type of intervention</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Added et al.</strong> (2016)</td>
<td>148 patients with chronic non-specific low back pain (106 females and 42 males) with an average age of 45.1 years</td>
<td>Physical Therapy Group (n=74): received physical therapy treatment consisting of exercise and manual therapy (including joint mobilization and myofascial release). Physical Therapy plus KT Group (n=74): physical therapy plus KT (the tape was positioned bilaterally on the erector spinal muscles parallel to the spinous processes of the lumbar vertebrae).</td>
<td>5-week follow-up: Pain (0-10) MD=0.01 (95% CI -0.88 to 0.85) / Disability (0-24) MD =1.14 (95% CI -0.85 to 3.13). 12-week follow-up: Pain (0-10) MD =0.47 (95% CI -0.39 to 1.34) / Disability (0-24) - MD =0.87 (95% CI -1.12 to 2.85). 24-week follow-up: Pain (0-10) MD =0.07 (95% CI -0.80 to 0.94) / Disability (0-24) - MD =2.01 (95% CI 0.03 to 4.00)</td>
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<tr>
<td><strong>Al-Shareef et al.</strong> (2016)</td>
<td>40 patients with chronic non-specific low back pain (20 males and 20 females) with mean age of 36.6 years</td>
<td>Intervention Group (n=20): Patients received KT applied with 10 to 15% tension, in a flexed position, to create convolutions. Placebo Group (n=20): Patients received application of KT without tension and without convolutions.</td>
<td>2-week follow-up: Pain (0-10) MD =2.05 (95% CI 1.38 to 2.71) / Disability (0-100) MD =3.90 (1.68 to 8.54) 4-week follow-up: Pain (0-10) MD =2.25 (1.67 to 2.82) / Disability (0-100) MD =5.6 (2.65 to 8.54)</td>
</tr>
<tr>
<td><strong>Bae et al.</strong> (2013)</td>
<td>20 patients with chronic non-specific low back pain (11 females and 9 males) with mean age of 52.4 years</td>
<td>Intervention Group (n=10): KT was applied to the region between L1 and L5 in an &quot;I&quot; shape. Placebo Group (n=10): placebo KT</td>
<td>12-week follow-up: Pain (0-10) MD = -0.07 (95% CI=-0.83 to 0.69) / Disability (0-24) MD = 0.14 (95% CI -1.02 to 0.74)</td>
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</table>
was applied to the region between L1 and L5 in an "I" shape.

<table>
<thead>
<tr>
<th>Study</th>
<th>Population Details</th>
<th>Intervention Details</th>
<th>Follow-up Results</th>
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<tbody>
<tr>
<td>Castro-Sanchez et al.(^4)(^1) (2012)</td>
<td>59 patients with chronic non-specific low back pain (40 females and 19 males) with mean age of 48.5 years.</td>
<td>Intervention Group (n=30): The KT was applied with three strips in a star shape. Placebo Group (n=29): Only one strip was applied in the longitudinal direction without tension.</td>
<td>1-week follow-up: Pain (0-10) MD = -1.1 (95% CI -0.3 to -1.9) / Disability (0-24) MD = -1.2 (95% CI -2.0 to -0.4) 5-week follow-up: Pain (0-10) MD = -1.0 (95% CI -1.7 to -0.2) / Disability (0-24) MD = 0.1 (95% CI -1.0 to 1.3)</td>
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<tr>
<td>Ciosek et al.(^2)(^6) (2015)</td>
<td>60 patients with chronic non-specific low back pain (43 females and 17 males) aged between 56 and 85 years.</td>
<td>Intervention Group (n=30): The KT was applied as two I-shaped strips, as described by the creators of the method. Control group (n=30) received no intervention.</td>
<td>1-week follow-up: Pain (0-10) MD = -1.23 (95% CI -2.08 to -0.38)</td>
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<tr>
<td>Kachanathu et al.(^4)(^2) (2014)</td>
<td>40 patients with chronic non-specific low back pain (10 females and 30 males) with a mean age of 34.8 years.</td>
<td>Group Exercise plus KT (n=20) performed therapeutic exercises according to guidelines for the treatment of patients with chronic non-specific low back pain plus KT applied as described by the creators of the method. Conventional Physical Therapy Group (n=20) performed only therapeutic exercises according to the guidelines for the</td>
<td>Post-test follow-up: Pain (0-10) MD = 2.3 (1.12 to 3.48) / Disability (0-24) MD = 3.8 (0.54 to 7.06)</td>
</tr>
<tr>
<td>Study (Year)</td>
<td>Participants</td>
<td>Intervention</td>
<td>Post-test follow-up: Pain (0-10) MD =</td>
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<td>Kamali et al. (2017)</td>
<td>42 semi-elite athletes with chronic non-specific low back pain (21 males and 21 females) aged 26.1 years.</td>
<td>Group Manipulation plus KT (n=21) received one manipulation on one day plus KT plus 24 hours of KT taping.</td>
<td>MD = -0.60 (-1.63 to 0.43) / MD = -7.40 (-15.11 to 0.31)</td>
</tr>
<tr>
<td>Köröglu et al. (2017)</td>
<td>60 patients with chronic non-specific low back pain (32 females and 28 males) with mean age of 48.5 years.</td>
<td>Intervention Group (n=20): received physical therapy treatment consisting of exercise and electrotherapy (TENS) plus KT taping. Placebo Group (n=20): received physical therapy treatment consisting of exercise and electrotherapy (TENS) plus placebo Tape. Control Group (n=20): received physical therapy treatment consisting of exercise and electrotherapy (TENS). The Taping was not applied to the patients in this Group.</td>
<td>MD = -2.3 (-3.84 to -0.76) / MD = -3.8 (-8.4 to 0.8)</td>
</tr>
<tr>
<td>Luz Jr et al. (2015)</td>
<td>60 patients with chronic non-specific low back pain (41 females and 19 males) with mean age of 48.5 years.</td>
<td>Group KT (n=20): Patients received KT as described by the creators of the method, with two I-shaped strips on the</td>
<td>KT versus Control 48-hour follow-up: Pain (0-10) MD = -1.0 (95% CI -2.1 to 0.1) / Disability (0-24) MD = -3.1 * (-5.2 to -1.1) 1-week follow-up: Pain (0-10) MD = -1.0 (95% CI -2.1 to 0.1) / Disability (0-24) MD = -3.1 * (-5.2 to -1.1)</td>
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Placebo Group (n=20): Patients received Micropore® with two I-shaped strips on the lumbar region.

Control Group (n=20): Patients received no intervention.

KT versus Placebo
10) MD= 0.2 (95% CI -1.3 to 0.9) / Disability (0-24) MD= -1.8 (95% CI -3.9 to 0.2)

1-week follow-up: Pain (0-10) MD=0.3 (95% CI -0.8 to 1.5) / Disability (0-24) MD= 1.7 (95% CI -0.4 to 3.8)

48-hour follow-up: Pain (0-10) MD=0.1 (95% CI -1.0 to 1.2) / Disability (0-24) MD= 1.9 (95% CI -0.2 to 3.9)
Placebo Group (n=74): Participants in the control group received KT with no tension, applied in a standing position and with no convolutions.

10) MD = -0.8 (-1.7 to 0.2) / Disability (0-24) MD = 0.4 (-0.7 to 1.5)

MD = Mean Difference; negative values favor Kinesio Taping (KT). * Including Araújo et al. (short communication)
Table 2. Methodological quality and statistical reporting of eligible trials

<table>
<thead>
<tr>
<th>STUDY</th>
<th>PEDro Scale Items$^a$</th>
<th>PEDro total score (0–10)</th>
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<tr>
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<td>1 2 3 4 5 6 7 8 9 10 11</td>
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<tr>
<td>Added et al.</td>
<td>Y Y Y Y N N Y Y Y Y Y</td>
<td>8</td>
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<tr>
<td>Al-Shareef et al.</td>
<td>Y Y Y Y N N Y Y N Y</td>
<td>7</td>
</tr>
<tr>
<td>Bae et al.</td>
<td>Y Y N Y N N Y N N Y Y</td>
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$^b$: Item 1 does not contribute to the total score.