



Short communication

Medium term effects of kinesio taping in patients with chronic non-specific low back pain: a randomized controlled trial

Amanda Costa Araujo^{a,*}, Patrícia do Carmo Silva Parreira^{a,b}, Luiz Carlos Hespanhol Junior^{a,c}, Tatiane Mota da Silva^{a,d}, Maurício Antônio da Luz Junior^a, Lucíola da Cunha Menezes Costa^a, Leonardo Oliveira Pena Costa^{a,b}

^a Masters and Doctoral Programs in Physical Therapy, Universidade Cidade de São Paulo, Brazil

^b Musculoskeletal Division, The George Institute for Global Health, Sydney, Australia

^c Amsterdam Collaboration on Health and Safety in Sports, Department of Public & Occupational Health and the EMGO+ Institute for Health and Care Research, VU University Medical Center, Amsterdam, The Netherlands

^d Department of Health Professions, Macquarie University, Sydney, Australia

Abstract

Background Kinesio taping is a commonly used intervention for patients with chronic low back pain. However, the medium term effects of kinesio taping in these patients are unknown.

Objective To investigate the effectiveness of kinesio taping in patients with chronic low back pain after 6 months from randomization.

Methods This was a randomized controlled trial with a 6 months follow up. One hundred and forty eight participants were randomly assigned to the experimental (kinesio taping with skin convolutions) or control (kinesio taping without convolutions—Sham Taping) group. Participants from both groups had the tape reapplied twice a week for four weeks. The outcomes were pain, disability and global impression of recovery after 6 months.

Results One participant was lost to follow up in the experimental group (n=73, response rate 99%) and two in the control group (n=72, response rate 97%). After 6 months there were no statistically significant between-group differences in pain intensity (between-group difference -0.8 points, 95% CI -1.7 to 0.2), global impression of recovery (0.4, -0.7 to 1.5), or disability (-1.1, -3.0 to 0.7).

Conclusion Four weeks of kinesio taping treatment was no better than sham taping for patients with chronic low back pain, at 6 months follow-up.

Trial Registration Number (<http://www.ensaiosclinicos.gov.br/>): RBR-7ggfkv (Brazilian Registry of Clinical Trials).

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Keywords: Kinesio taping; Chronic low back pain; Randomized controlled trial

Introduction

Kinesio taping is a commonly used intervention for patients with low back pain [1–5]. According to the develop-

ers of this intervention, the effects of kinesio taping include reduction of pain and disability [4]. This intervention is relatively easy to apply, and can stay on the skin for a period of 3 to 5 days, including in the water [4], however, it is more expensive than traditional rigid tape.

Our research group recently published a randomized controlled trial that aimed to test the efficacy of kinesio taping

* Corresponding author.

E-mail address: mandaa_costa@hotmail.com (A.C. Araujo).

generating skin convolutions (i.e. using the recommended technique) versus sham taping (i.e. kinesio taping with no tension, creating no skin convolutions) in patients with chronic low back pain [6]. We observed that kinesio taping was not better than sham taping for these patients at 4 and 12 weeks from baseline. Soon after the publication of our trial, we obtained additional funding for a 6 months follow-up. To our knowledge, there is no randomized controlled trial available that has collected such data after 6 months. This brief report reports results from the 6-month follow-up point.

Methods

Design

This was a randomized controlled trial. A full description of the methods of this study was published elsewhere [6,7].

Inclusion/exclusion criteria

Patients with low back pain of at least three months duration and aged between 18 and 80 years were included in this trial. Patients with any contraindication to physical exercise, serious spinal pathology (i.e. nerve root compromise, fracture, tumor), serious cardiopulmonary conditions, pregnancy or any contraindications to the use of taping were excluded. The trial was conducted in two outpatient physiotherapy clinics in Brazil.

148 participants were randomly assigned to the experimental group (kinesio taping with skin convolutions) or control group (kinesio taping without convolutions—Sham taping). Allocation of the subjects was concealed by using sealed opaque envelopes. Participants were informed that they would receive one of two different forms of kinesio taping application. Due to the nature of the interventions it was not possible to blind the therapists.

Experimental/control groups

Two strips of tape were placed bilaterally parallel to the spine over the erector spinae [4] in both groups. Tape was applied in the experimental group according to the Kenzo Kase's kinesio taping manual [4,6]. This involved the appli-

cation of kinesio taping over each erector spinae muscle with 10 to 15% of tension (paper-off tension), thus creating convolutions in the skin. Participants in the control group received the same taping but without tension (i.e. not generating skin convolutions). Participants from both groups had the tape reapplied twice a week for four weeks, a total of eight applications.

Outcome measures

Three outcomes were measured: pain intensity (measured by a 0 to 10 Numerical Rating Scale); disability (measured by the 24-item Roland Morris Disability Questionnaire) and Global impression of recovery (measured by a +5 to -5 Global Perceived Effect Scale). These measures have been cross-culturally adapted into Portuguese and tested for their measurement properties [8]. Outcomes were measured by a blinded assessor.

Data analysis, ethics approval and trial registration

This trial was approved by the Universidade Cidade de São Paulo human ethics committee (PP13603502) and prospectively registered at the Brazilian Registry of Clinical Trials: RBR-7ggfkv.

Statistical analysis was conducted following the intention-to-treat principle. The between-group differences and their respective 95% confidence intervals (CI) were calculated using linear mixed models. A full description of the statistical analysis can be found elsewhere [6,7].

Results

Table 1 presents descriptive data at baseline, and at 6 months, and treatment effects (95% CI). The two groups were similar at baseline. There was one participant lost to follow up in the experimental group (n = 73, response rate 99%) and two in the control group (n = 72, response rate 97%). Patients from both groups experienced a reduction in pain and disability at 6 months but there were no significant between-group differences on any of the outcome measures.

Table 1

Descriptive data at baseline and at 6 months after randomization; Treatment effects and their respective 95% confidence intervals.

Outcomes	Time-point				Adjusted between-group differences ^a	p value
	Baseline		Month 6			
	KT (n = 74)	Sham KT (n = 74)	KT (n = 73)	Sham KT (n = 72)		
Pain (0 to 10)	7.0 (2.0)	6.8 (2.0)	5.2 (3.0)	5.8 (2.6)	-0.8 (-1.7 to 0.2)	0.23
Disability (0 to 24)	11.5 (6.2)	10.4 (5.3)	8.8 (7.4)	8.9 (6.7)	-1.1 (-3.0 to 0.7)	0.91
Global impression of recovery (-5 to 5)	-1.0 (3.2)	-0.1 (2.9)	0.3 (3.4)	0.8 (2.9)	0.4 (-0.7 to 1.5)	0.42

KT: kinesio taping. Data are expressed as mean and standard deviation.

^a Treatment effects were adjusted for baseline estimates.

Discussion

This is the first randomized controlled trial on the effects of kinesiio taping in patients with chronic low back pain at 6 months. There was no effect of kinesiio taping versus sham on pain intensity, global impression of recovery or disability. Improvements over time in both groups can be attributed to the natural history of the condition, regression to the mean and/or non-specific effects of treatment.

Our results support the findings of a systematic review [9] that analyzed short term effects of kinesiio taping in patients with chronic low back pain, and concluded that the effects of this intervention are due to placebo.

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Ethical approval: This trial was approved by the Universidade Cidade de São Paulo—ethics committee (number PP13603502).

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Conflict of interest: None declared.

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