INPLASY

Comparison of Dynamic Taping and Conventional Taping Techniques for Lower Limb Injury Rehabilitation in Millennials: A Systematic Review and Meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - No Support.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480107

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 August 2024 and was last updated on 23 August 2024.

INTRODUCTION

Review question / Objective To evaluate and compare the effect of dynamic taping over conventional taping techniques for the rehabilitation of lower limb injuries among the young population. This review will make an effort to address some pertinent researches about the activity levels, injury information, and rehabilitation objectives of young people.

Rationale The findings of this study will be very significant for academicians for further studies, clinicians looking to enhance effectiveness of treatment plans and outcomes, as well as for athletes and other researchers interested in maximised rehabilitation and ultimately, as a whole outcomes of this study will help to preventing and recovering from lower limb injuries in a very effective and efficient way that ultimately helps the society and athletics population.

Condition being studied In contrast to conventional taping techniques, the field of lower limb injury rehabilitation has developed more significantly over the past few years with the introduction of dynamic taping. Moreover, the active, health-conscious, and rapidly growing millennial demographic makes the rehabilitation approaches for lower limb injuries crucial. Because dynamic taping offers potential advantages over conventional taping techniques, it has become more and more important. Dynamic taping falls under the elastic therapeutic tape, which allows for range of motion to be freely moved while providing support. The goal of the current systematic review and meta-analysis is to examine critically the relative effectiveness of dynamic taping and conventional taping procedures for the rehabilitation of lower- limb injuries in young people.

Traditional taping methods are elastic and non-elastic, immobilization and protect injured areas but are not very efficient as compared to the functional goals of rehabilitation. On the other end of the spectrum, dynamic taping offers the capability to promote functional recovery with very less discomfort. This is because dynamic taping

technique is applied in a more adaptive manner; it is referred to as a taping method. However, there is still conflicting data demonstrating its greater performance, with different results from studies and injury categories. In order to provide very precise information of the advantages and disadvantages of dynamic taping when compared to conventional techniques, this review targeting to collect and evaluate the body of current research on this subject.

METHODS

Search strategy Six online electronic data bases (PubMed, Cochrane Library, Web of Science, Pedro, Science Direct, and Google Scholar) will be searched the year 2014-2024 using Boolean operators and MeSH terms.

Participant or population The study does not require ethics approval because it is a secondary analysis of already published material. However, when it comes to reporting and interpretation, it is imperative to adhere to ethical norms.

Intervention Dynamic Taping Techniques.

Comparator Conventional Taping Techniques.

Study designs to be included Quasi-experimental studies and Randomized controlled trials will be included in the review.

Eligibility criteria 1 Inclusion Criteria
a. Study Design: Quasi-experimental studies and Randomized controlled trials will be included in the review
b. Population: Young adults with lower limb injuries.
c. Intervention: Dynamic taping techniques.
d. Comparison: Traditional tapping techniques.
e. Outcomes: Betterment in pain, functional recovery, range of motion, and rehabilitation.
f. Language: English.

2. Exclusion Criteria
a. Non-English articles.
b. Studies not including lower limbs injuries.
c. Studies on animal/in vitro studies.
d. Case reports, Grey literature, and Opinion articles.

Information sources a. Databases: Pubmed, Cochrane Library, Web Of Science, Pedro, Science Direct, Google Scholar.
b. Additional Sources: Reference lists of key papers, clinical trial registries, and grey literature.

Main outcome(s) The data will be reviewed for primary outcomes that combined variables like Pain reduction, Functional recovery, Balance, Co-ordination and Range of motion.

Data management Information Gathering
a. Data Extraction Form: A standard form will be used to collect data on the following topics: research characteristics, participant demographics, intervention details, outcome measure, and result data.
b. The study's design, sample size, types of lower limb injury, methods of taping intervention, duration of the intervention, outcome measures, and results are crucial heterogeneity factors.

Quality assessment / Risk of bias analysis a. Risk of Bias: Cochrane Risk of Bias tool for RCT and ROBINS-I for non-randomized studies.
b. Quality Assessment: PEDro assessment score will be used for the quality assessment.

Strategy of data synthesis a. Meta-Analysis: by using the RevMan software, the data will be reviewed for primary outcomes that combined variables like Pain reduction, Functional recovery, Balance, Co-ordination and Range of motion.
b. Estimate Measures: Calculate weighted mean differences (WMDs)/standardized mean differences (SMDs) and 95% confidence intervals for the sequence of data, and odds ratio for discrete data.
c. Heterogeneity: Heterogeneity will be tested by using of I2 statistics. Use random-effects models only when there is a high amount of heterogeneity.

Subgroup analysis If there any heterogeneity analyses will be performed then they must to take into account the participants' characteristics, the type of injury, and the period of taping.

Sensitivity analysis Sensitivity analyses: Verify the results' strength by the eliminating studies with a high risk of bias or by varying the methodological presumptions.

Language restriction English.

Country(ies) involved India (Department of Physiotherapy, School of Allied Medical Sciences, Galgotias University, Greater Noida, India).

Keywords Young adults, lower limb injuries, Pain reduction, Functional recovery, Balance, Co-ordination, Range of motion, Dynamic Taping.

Dissemination plans Publication: Submit the systematic review and meta-analysis to a peer-

reviewed journal in the field of rehabilitation, orthopaedic sports medicine.

Contributions of each author

Author 1 - Mohd Asif - Author 1 Drafting the manuscript.
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