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Kinesio taping for individuals with carpal tunnel syndrome

Submission date
08/08/2022

Recruitment status
No longer recruiting

Registration date
12/08/2022

Overall study status
Completed

Last Edited
03/12/2024

Condition category
Musculoskeletal Diseases

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol
Background and study aims
Carpal tunnel syndrome (CTS) is a common neuromuscular disorder. The symptoms of CTS included numbness and may further influence the ability of daily activities. The limited studies in investigating the effects of the kinesio taping (KT) in individuals with CTS. Thus, the purpose of this study was to investigate the effect of KT on the pain intensity and disability levels of daily activities in individuals with mild to moderate CTS.

Who can participate?
Individuals aged 18 - 65 years, diagnosed with mild to moderate CTS by a physician

What does the study involve?
This study was a randomized controlled parallel design study. Participants with CTS were assigned to the (1) conventional therapy group and the (2) conventional therapy combined kinesio taping group for 6 weeks. The electroneuromyography assessments, hand grip strength and subjective questionnaires (such as pain intensity and disability levels) were measured.

What are the possible benefits and risks of participating:?
Benefits: The pain intensity may be relieved after completing a 6-week experiment.
Risks: Participants may experience skin discomfort due to the allergy to kinesio taping.

Where is the study run fro?
Taichung Veterans General Hospital (Taiwan)

When is the study starting and how long is it expected to run for?
September 2020 to May 2021

Who is funding the study?
This study was supported by the Ministry of Science and Technology, Taiwan (MOST111-2410-H-037-025-MY2) and National Yang Ming Chiao Tung and Kaohsiung Medical University joint project (NYCUKMU-111-I006) (Taiwan)

Who is the main contact?
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Type(s)
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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

Protocol serial number
CF20351A

Study information

Scientific Title
Effects of Kinesio tape for individuals with carpal tunnel syndrome: A randomized controlled study

Study objectives
This study hypothesized that the pain intensity, hand grip strength, wrist function, nerve conduction velocity, and the motor latency improved after kinesio taping intervention, in addition, the extent of difference of pre- and post-measurements were greater after kinesio taping intervention compared to the conventional therapy only.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 11/10/2021, Institutional review board of Taichung Veterans General Hospital (1650 Taiwan Boulevard Sect. 4, Taichung, Taiwan 40705, R.O.C; +886-4-23592525#4006; irbtc@vghtc.gov.tw), ref: CF20351A

Study design
Randomized controlled parallel trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Treatment in individuals with carpal tunnel syndrome

Interventions
This study contained kinesio taping group and the control group.

For kinesio taping group, in addition to the conventional physical therapy, the kinesio tape (SKT-X-050, JAPAN, 50mm×4.6m) was applied on the forearm (from the elbow joint to the wrist joint) for six weeks, twice a week, and the kinesio tape was kept on the taping site for 2 days.
There was two kinesio tapes applied to a participant in one intervention session. Participants were asked to keep their wrists extended at 30 degrees with forearm supination. The x-shape kinesio tape was applied to the mediolateral epicondyles in a tension-free manner first. Then, the kinesio tape was attached through the forearm with a slight tension (15-25%) to the first and fifth metacarpophalangeal joint without tension.
The second kinesio tape was an I-shape tape. After the center point of the sticker was attached on the dorsal side of the distal radioulnar joint, the two ends were adhered to both sides of the distal radioulnar joint with a slight tension (15-20%).

Participants in the control group received conventional physical therapy including heat therapy, transcutaneous electrical nerve stimulation, ultrasound and laser treatment twice a week for six weeks.

Participants with CTS were assigned to the (1) conventional therapy group and the (2) conventional therapy combined kinesio taping group. This study drew lots to assign participants with CTS in different groups randomly. An assistant who did not participate this study drew lots. The outcome measurements were performed at the baseline and after a six-week intervention.

Intervention Type
Other

Primary outcome(s)
Measured at baseline and 6-weeks:
1. Pain intensity measured using Visual Analogue Scale
2. Hand grip strength measured using HAND Dynamometer
3. Severity and the disability levels of hand measured using Boston Carpal Tunnel Questionnaire

Key secondary outcome(s))
Nerve conduction velocity, motor and sensory latency, motor amplitude measured using electroneurography at baseline and 6 weeks

Completion date
31/05/2021

Eligibility

Key inclusion criteria
1. Aged 18 - 65 years
2. Diagnosed with mild to moderate CTS by a physician
3. CTS symptoms persisted for at least 3 months

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
Not Specified

Total final enrolment
27

Key exclusion criteria
1. Severe CTS diagnosed by a physician and atrophy of the palm muscles
2. Steroids injection on the wrist in the past 1 year
3. Skin status was not suitable for kinesio tape, such as psoriasis, or was currently allergic, inflammation or has open wounds
4. History of surgery on the wrist

Date of first enrolment
01/01/2021

Date of final enrolment
19/04/2021

Locations

Countries of recruitment
Taiwan

Study participating centre
Taichung Veterans General Hospital
No. 1650 Taiwan Boulevard Sec. 4
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Sponsor information

Organisation
Kaohsiung Medical University

ROR
https://ror.org/03gk81f96

Funder(s)

Funder type
Government

Funder Name
Ministry of Science and Technology, Taiwan

Alternative Name(s)
Ministry of Science and Technology, R.O.C. (Taiwan), Ministry of Science and Technology of Taiwan, MOST

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Taiwan

Funder Name
National Yang Ming Chiao Tung and Kaohsiung Medical University joint project

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated and/or analysed during the current study will be included in the subsequent results publication

IPD sharing plan summary

Published as a supplement to the results publication

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		08/11/2024	03/12/2024	Yes	No