

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَقُلْ رَبِّيَ زِدْنِي عِلْمًا

صدق الله العظيم

سورة طه: ١١٤



# EFFICACY OF KINESIOTAPING AND NIGHT SPLINT IN ADDUCTOR CONTRACTURE OF THUMB POST HAND BURN

By

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تأثير الشريط اللاصق والدعامة  
الليلىة على انكماش العضلات  
القبضة لأصبع الإبهام بعد  
حرق اليد



# Acknowledgements

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# **Introduction**



# Introduction

Burns being a life-threatening and disfiguring injury the initial focus is on saving life and the after that the patient is worried about the aesthetic issues. The hands are often neglected in this scenario. It cannot be over emphasized that the hand therapist should be involved from day one, who not only keeps the hand in proper position but also apprises at a regular interval, both the patient and the doctor, the importance of hand. No other post-burn deformity gets worsened with time as does hand and hence time is key to functional recovery. Therefore while planning the schedule of corrective surgeries the hand must figure higher in the priority list even if patient demand correction of facial and other aesthetic deformities first (**Schwarz and Joshi, 2004**).

# Introduction

Kinesiology tape has a comprehensive array of therapeutic benefits. Because it can be left on for up to 5 days, these therapeutic benefits are available to the injured area 24 hours a day, significantly accelerating the healing process from trauma, injuries and inflammatory conditions (Bassett et al., 2010).

# Introduction

## Statement of the Problem:

Would the kinesiotaping and night splint plus the standard physical therapy protocol contribute on minimizing adductors contracture of thumb post hand burn?

## Purpose of the Study:

The purpose of the study was to investigate the efficacy of kinesio taping and night splint on adductors contracture of thumb post hand burn.

# Statement of the problem:

## Hypothesis

It was hypothesized that kinesiotaping and night splint plus standard physical therapy protocol might not minimize adductors contracture of thumb post hand burn when compared with the standard physical therapy protocol only.





# **SUBJECTS, MATERIAL AND METHODS**

# **Groups of study:-**

## **Group(A)- Study Group**

**The group that received the kinesiotaping and night splint plus the standard physical therapy protocol**

## **Group(B)- Control Group**

**The group that received the standard physical therapy protocol only (source of heat, ultrasound, tens and exercise).**

# Criteria of Patient Selection of study:-

## Inclusion Criteria:

- The patients ages was ranged from (20-40) years.
- All patients in both groups of the study were received the same medication
- All patients suffering from adductor contracture of thumb post hand burn.
- All patients hadn't any history of adductor contracture.
- All patients hadn't taking any medication that might influence the treatment procedure.
- All patients were conscious and co-operative.

# Exclusion Criteria:

The patients examined by physician before the study excluded the following patients:

- Patients who had diabetes mellitus and hypertension.
- Patients with history of vascular or circulatory disorders.
- Patients with clinical evidence of pre-existing pulmonary diseases.
- Patients with clinical evidence of skin irritation.
- Patients with life threatening disorders as renal failure and myocardial infarction.
- Patients with hemorrhage specially hemorrhage of digestive system and those with bleeding per rectum.
- Patients with severe fungal diseases and acute viral diseases.



# Therapeutic equipment and tools:

## Measuring tools



Night splint

# Measurement of *Range of motion:* *using goniometer*



measuring of thumb  
Abduction on right hand



measuring of thumb  
abduction on left hand

# Measurement of *Range of motion:* *using goniometer*



**Measuring of wrist  
extension From neutral  
position**



**measuring of wrist  
flexion from neutral  
position**



# Measurement of *Range of motion:* *using goniometer*



**Measuring of wrist ulnar deviation**



**measuring of wrist flexion from neutral position**



# Measurement of *Range of motion:* *using goniometer*



**Application of  
kinesiotape**

# Measurement of *Range of motion:* *using goniometer*



**Shape of night splint**

# Measurement of *Range of motion:* *using goniometer*



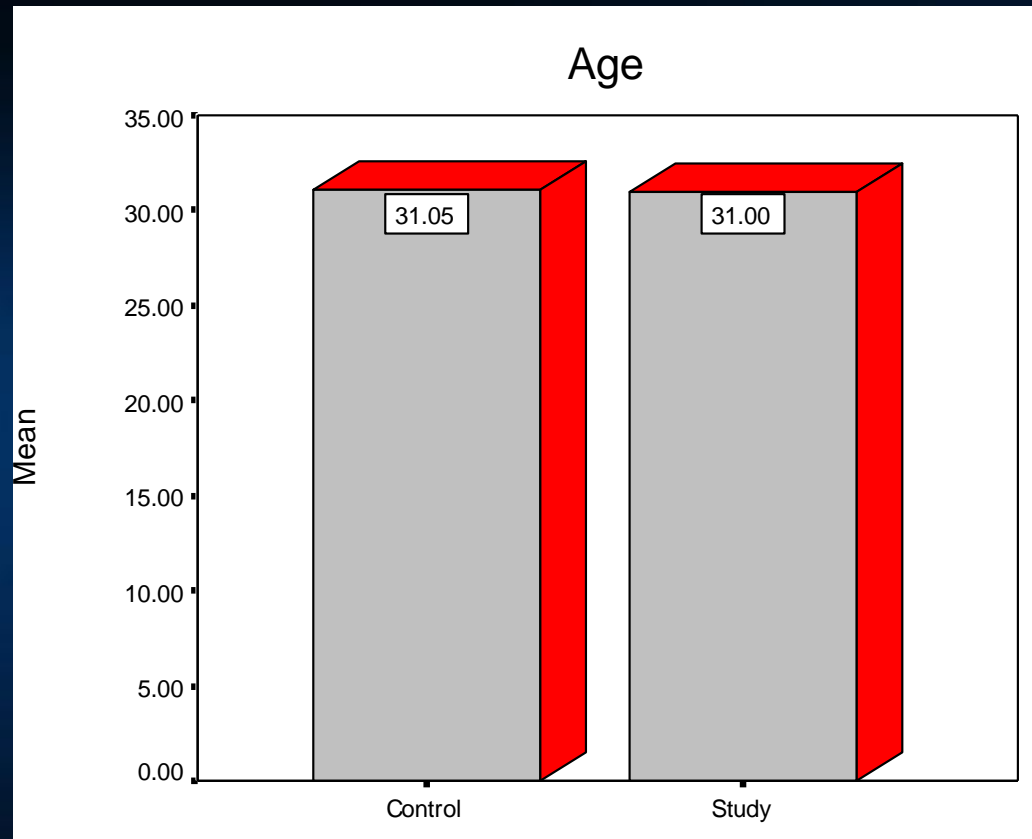
**Exercise therapy for  
thumb abduction**

The background is a dark blue gradient with faint, light blue diagonal lines. A gold-colored tab is located in the top-left corner, partially overlapping a white horizontal bar.

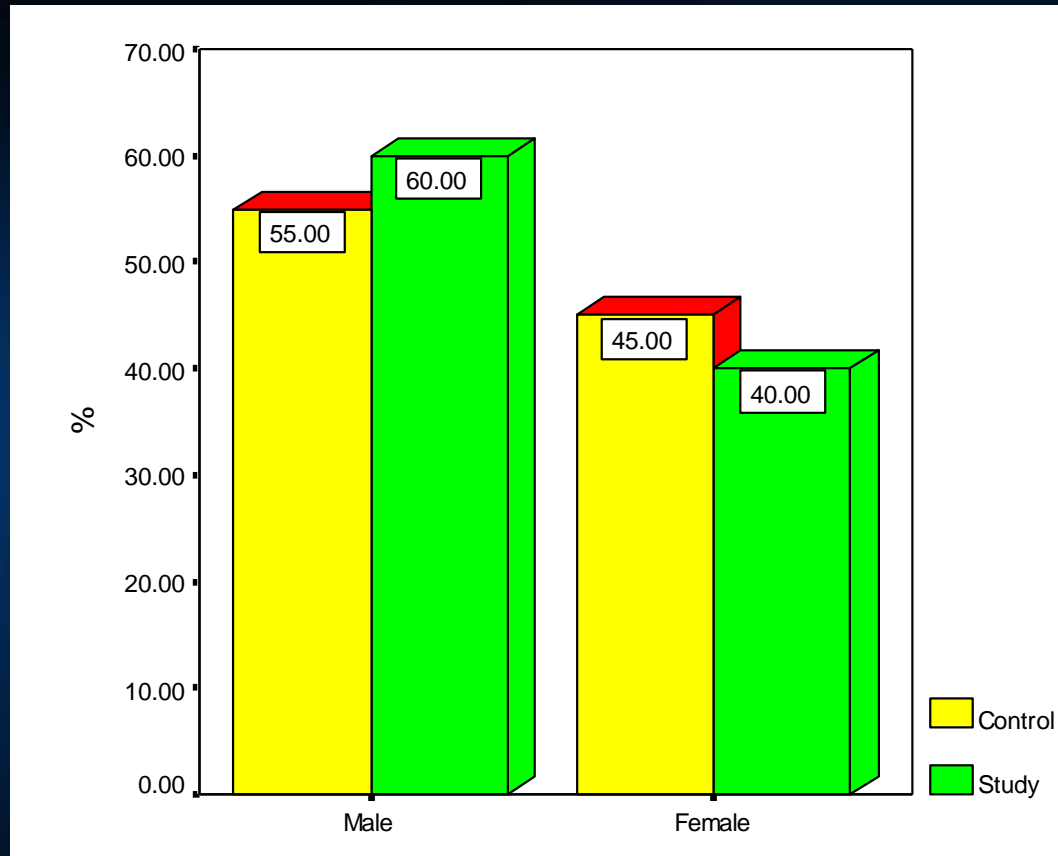
# Results



Difference between two groups (**Study (A)** and **Control (B)**), to find a difference between the two independent samples.

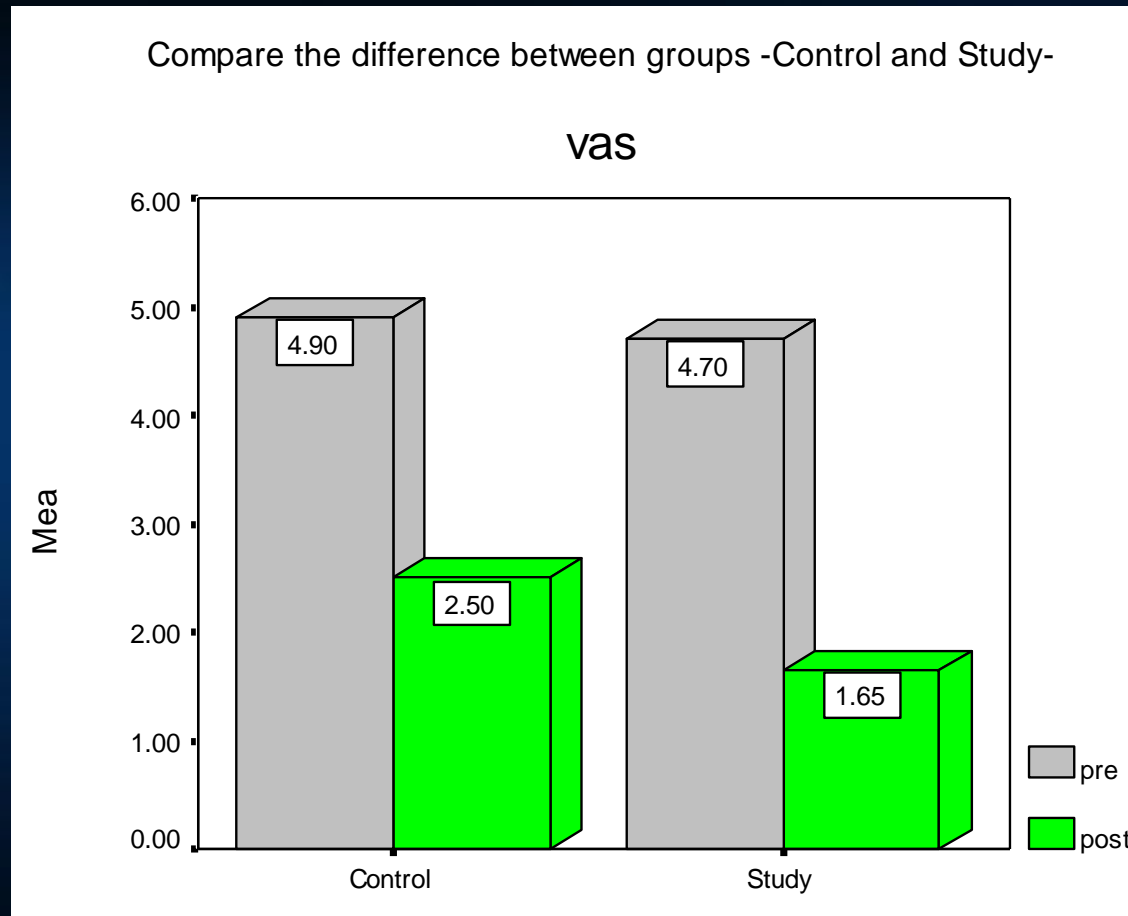


**mean age (years) for group A and group B**



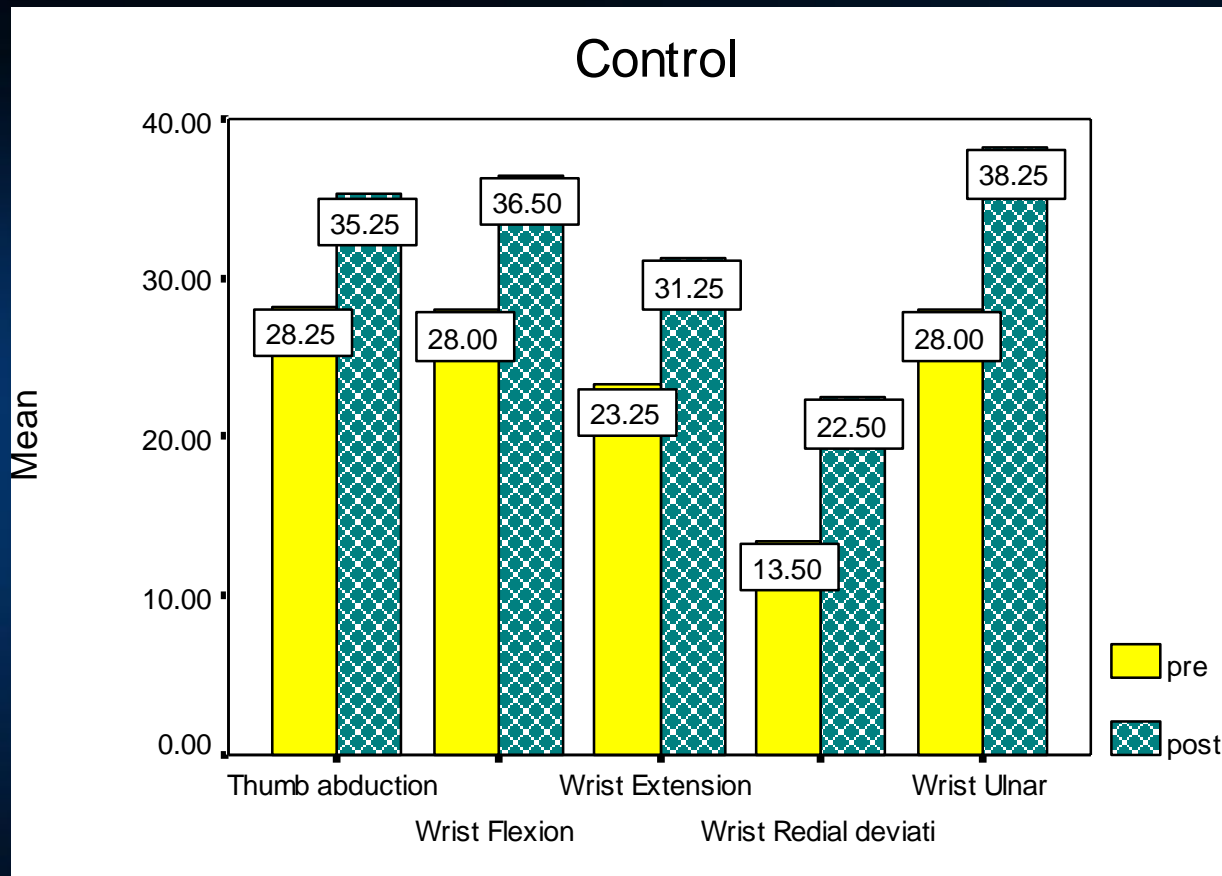
**Mean gender for group A and group B**

# Variables of the study



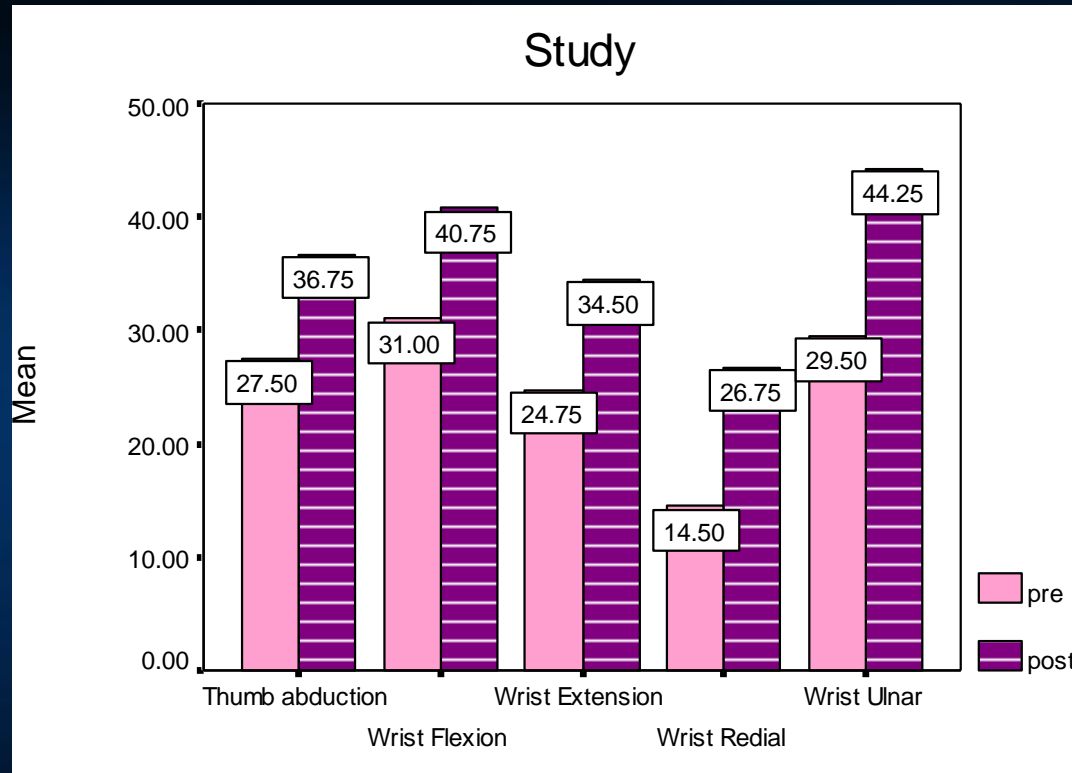
**variable VAS for group Control and Study**

# ( Wrist Ulnar deviation) post



variable Rom assessment for group  
Control and Study

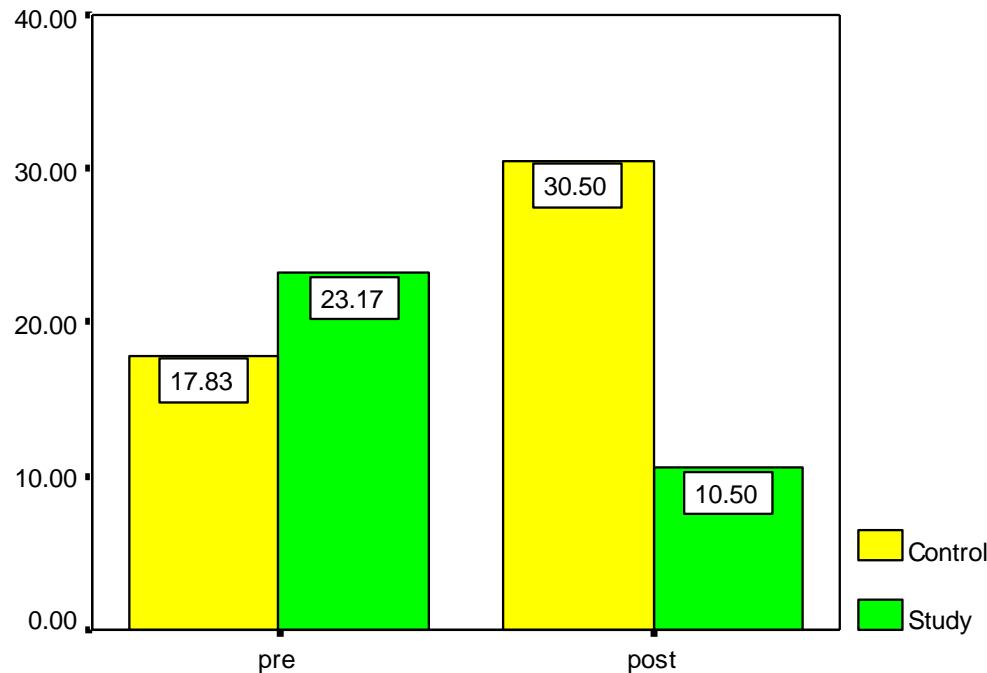




**Rom assessment for group B and A**

## DASH Assessment

Standard score



**variable DASH Assessment for group  
Control and Study**



**conclusion**

- Kinesiotape and night splint is more effective than standard physical therapy only on treatment of pain, improve range of motion and hand function after hand burn as evidenced by the significant increases in ROM and hand function and significant decrease in visual analogue scale )VAS .(





# **Recommendations**

## **The results of this study have indicated a need to consider the following recommendations:**

- A similar study should be conducted with other physical modalities**
- Different kinesiotape application should be conducted after hand burn to obtain the most appropriate for treatment.**
- Different shape of night splint should be conducted for similar studies.**
- Follow- up studies of various treatment duration would be of great interest.**
- A similar study should be done in other post- hand burn problems and complications.**
- Further studies should be undertaken to a large number of patients providing better statistical analysis of data.**

Thank You!

