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ORIGINAL ARTICLE

Comparison between Kinesio Taping and A Traditional Physical Therapy Rehabilitation for the treatment of Non-Specific Back Pain

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ABSTRACT

Aim: To see the comparative effectiveness of Conventional physiotherapy with kinesio Taping and Conventional physiotherapy alone to reduce pain and increase Range of Motion (ROM) in patients with non-specific low back pain.
Methodology: The study design was Randomized controlled trail. Non-probability Temporal method sampling technique was used. Sample size was 36. The data was collected from Department of Physiotherapy Mayo Hospital Lahore. Written informed contest was taken from each patients taking part in this prior to performing any examination. Patients with non-specific low back pain were divided randomly into two groups. In 'group A' Conventional physiotherapy with Kinesio Taping was applied while in 'group B' only conventional physiotherapy was applied. The patients were divided into two groups using a computer-generated list. Both groups will receive conventional therapy, which will remain same throughout the study. The conventional therapy will include back isometrics and hot pack for 15 minutes. Group A will receive conventional therapy and Kinesio Taping while group B will receive only conventional therapy. Treatment frequency will be thrice a week. The duration of treatment was be 2 weeks in both groups. Each patient's informed consent was obtained before Performa was filled out. The Roland Morris Disability Questionnaire and the Visual Analogue Scale (VAS) were both utilized for scoring.
Results: Kinesio Taping with Traditional Physical Therapy technique is more effective in improving ROMand reducing disability as compared to only Traditional Physical Therapy technique. Patients in group A showed marked improvement as compared to group B.
Conclusion: it was concluded that conventional physiotherapy with Kinesio Taping is more effective than Conventional physiotherapy alone for the treatment of lowback pain. Conventional physiotherapy with Kinesio Taping not only decrease pain but also improves function and flexibility of spine.
Key words: Non-specific low back pain, Kinesio-taping, Traditional physical therapy, RCT, Rehabilitation

INTRODUCTION

Back pain that isn't specific is a prevalent ailment that has major social and economic implications[1]. NSLBP is described as low back pain that isn't caused by a specific, identifiable disease, such as infection, cancer, osteoporosis, or a fracture, and accounts for 85 to 90% of all low back pain diagnoses. Although the majority of people with low back pain are successfully managed in general care, 10 to 15% acquire problems and emotional (lasting more than three months)[2]. LBP affects 12 to 33% of the general population, with a one-year frequency of 22 to 65% and a lifetime recurrence of 11 to 84%.

Back pain is a musculoskeletal mechanical pain whose symptoms change according on the type of physical activity. NSLBP patients make up about 85% of LBP patients who visit a primary care facility[5]. NSLBP is defined as pain, muscular tension, or stiffness below the costal border and above the inferior gluteal folds that is not related to a specific condition and can occur with or without leg discomfort[6]. LBP is thought to be a self-limiting health condition[7]. Patients with acute LBP issues are said to recover in 80 to 90% of cases after six weeks. However, 10 to 20% of people will have chronic low back pain (CLBP). The ten to twenty percent of patients are responsible for 70 to 80% of health-care and societal costs[8]. For many years, low back pain has been a serious public health concern, causing significant work impairment and rising healthcare expenses. Around 70–80%t of adults in the general population are thought to have suffered from low back pain at some point in their lives[9].

One of the most common causes for people to visit a doctor in industrialized nations is nonspecific persistent low back pain, which limits activities in persons under the age of 45. Conservative LBP treatment aims to reduce pain, improve ADL, and instruct patients on how to deal with discomfort in general[10].

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Treatments for NSCLBP that are frequently prescribed include traction, transcutaneous electrical nerve stimulation, facet injections, laser therapy, massage, therapeutic ultrasound, and lumbar supports, but there is little to no evidence to support their use[11]. None of the frequently employed therapies can effectively treat NSCLBP. The majority of patients see very modest decreases in the severity of CLBP-related symptoms, and discomfort continues. There are various kinds of tape and associated application techniques, each with their own underlying ideas regarding how they function. A novel method of treating NSCLBP called kinesio taping involves supporting the injured area, relaxing the muscles, and minimizing pain (KT). Kinesio tape, which is thinner than traditional sports tape and possesses elastic mechanical qualities akin to skin, permits a normal range of motion. In Japan, Kase and Wallis created this one, which has recently gained in popularity[12].

Over the last 15 years, the past history of back ache cases are going to be increased in children and adolescents. A major global conference in Grenoble (France) in March 1999 focused on this topic, which was deemed almost inconsequential less than two decades ago. This review study is the result of a previous research update search conducted by three categories with considerable experience in this topic. Current epidemiological data on LBP, and also the participation of the key predictors, is described in research reported in massive peer-reviewed papers interested in the topic[13]. In Western countries, low back pain (LBP) is quite expensive and is associated with disability and lost productivity. Various intervention modalities, like as surgery, pharmaceutical therapy, and non-medical methods, are used to treat LBP. Recent years have seen a large increase in the publication of randomized controlled trials (RCTs), which have been combined into systematic reviews. Most of these systematic evaluations focus on the effectiveness of a particular technique and explain how it affects various types of LBP[14].

Chronic lower back pain significantly harms public health because it causes an approximated 83 million well decades to be lost each year to illness, disability, or early death. Lower back pain is one of the top three causes of years of disability in highly industrialised countries, and persistent lower back pain has been rated as having a high disutility in most countries[15]. Examples of physical and rehabilitation techniques for treating chronic LBP include exercise therapy, back training, transcutaneous electrical nerve stimulation (TENS), lumbar supports, and heat/cold therapy[16]. Some of the treatments for LBP include medication physical measures (ultrasound, transcutaneous electrical stimulation, and laser), nerve blockade, and acupuncture. The effectiveness of the therapeutic approaches has not yet been proven, though[17].

Low back pain is a very familiar problem in all age group. Low back pain leads to multiple dysfunctions depending upon severity of pain. It may decrease the range of motion and leads to functional dependency. Physical therapy is important in the management of low back pain including heat therapy, ultrasound, infrared radiations, and manipulation and in some cases traction. This study provided an opportunity to share my personal experience with community. This study was conducted purely in clinical setting of Physiotherapy Department Mayo Hospital, Lahore.

MATERIALS AND METHODS

Randomized, single-blinded clinical trial was the study design. The Mayo Hospital in Lahore's School of Physiotherapy served as the study's location. After the synopsis was approved, the study lasted for 4 months. There were 36 patients, 18 in group 1 and 18 in group 2. Each group's 18 patients were counted with a 95% confidence level. With the aid of the software G Power 3.9.1.4, sample size was estimated. Sampling technique was Non-probability Temporal method. Attrition rate will be 10% (3 patients). The data was gathered following the therapist's physical examination. Both the topic and objective examination are covered. Age, gender, previous medical history, socioeconomic background, marital status, level of education, duration of onset, and nature and location of symptoms are just a few of the demographic details included in the report. The NPRS is a trustworthy and accurate tool for measuring pain. Pain, range of motion, and impairment were discussed with patients who had traditional physical therapy and kinesio taping interventions. The Roland-Morris Questionnaire was used to base the final determination of impairment.

General protocol

Group – A In this group patients were treated with Kinesio Taping and Traditional physical therapy.

Group – B In this group patients were treated with Traditional physical therapy

Treatment duration: Treatment duration was 30 min for one session.

METHODS OF ASSESEMENT :

Patients were assessed on following steps.

1. **History** history from the patients was obtained to rule out any active pathology and other
2. causes of included systemic illness.

2.Observation All the subjects were observed from front, back and lateral view to see the change in alignment of lumbar spine and lower limb and to see in contour changes.

3.Palpation

Palpate soft tissue structures around the lumbar spine, pelvis, hip and the leg to see the tenderness and also see the temperature difference around these areas. We also judge the distribution of dermatomes and myotomes to find any nerve root involvement. In this study 40 subjects with chronic low back pain were selected. These were split into two equal groups: Group B received just traditional physical treatment, whereas Group A received both traditional physical therapy and kinesio taping. One of these two groups randomly selected patients from the other. It was documented and compared how the improvements varied. Each patient's consent was obtained using a consent form.

RESULTS

Mean age in group A was 33.72 ± 3.76 and in group B was 33.88±2.82.Out of 36 patients, In group A there was 14 males and 4 females, likewise in group B there was 14 males and 4 females.

Comparison of Visual analogue pain scale score of group A and B has shown that there was significant difference between pre and post treatment score, pretreatment mean VAS score were 7.22±1.004 and post treatment were 2.0556±0.8023, in group A while in group B pretreatment mean VAS score were 6.6111±1.33456 and post treatment were 4.111±1.786, with the P value of 0.00, showing that Kinesio taping with traditional physical therapy were significant in reducing pain in patients of Nonspecific low back pain.

Comparison of Roland Morris Disability Questionnaire (RMQ) of group A has shown that there was significant difference between pre and post treatment score, pretreatment mean RMQ score were 17.3889 ± 3.2564 and post treatment were 5.111 ± 1.4089, while group B having pretreatment mean RMQ score were 16.111 ± 2.37 and post treatment were 7.7778 ± 1.4371with the P value of 0.00, showing that Kinesio taping with traditional physical therapy were effective in improving the functional status in patients of Nonspecific low back pain.

Table 1: Descriptive statistical analysis, Intervention group and control group (n=36)

	Intervention Group	Control Group
Gender	14/4	14/4
Age	33.72±3.77	33.89±2.826

Table 2: Pre and post treatment comparison of Pain

	Mean± S.D	Sig. (2-tailed)
VAS_PRE_A	7.2222 ±1.00326	
Pair 1		
VAS_POST_A	2.0556 ±0.80237	0.000
VAS_PRE_B	6.6111 ±1.13345	0.000
Pair 2		
VAS_POST_B	4.1111 ±1.0786	

Table 3: Pre and post treatment comparison of RMQ

	Mean± S.D	Sig. (2-tailed)
RMQ_PRE_A	17.388 ±3.2564	
Pair 1		
RMQ_POST_A	5.1111± 1.4095	0.000
RMQ_PRE_B	16.111± 2.373	0.000
Pair 2		
RMQ_POST_B	7.777 ± 1.4371	

DISCUSSION

The present examination was led to decide the quick impacts of adjusted lumbar Kinesio Taping in non-particular interminable low back agony patients. Following activation, there were critical decrease in the torment and movement impediment while a noteworthy increment in lumbar flexion ROM. Result measures utilized were Low back agony rating scale incapacity, Patient particular useful scale and Range of movement. The investigation revealed aside from the patient particular practical scale there were likewise factual huge contrasts in the result measures. Notwithstanding, the outcomes detailed just minor enhancements and were not clinically applicable. Manipulative treatment medications are fundamentally used to alleviate patients' side effects, and subsequently help of agony is an essential pointer of the impact of treatment. The consequences of this examination demonstrate that PA assembly of the lumbar spine created a more noteworthy diminishing in the force of agony experienced on dynamic development than a control mediation.

The program's specifics are tailored to each individual within a general framework, and progression through the stages is

determined by their level of mastery. The goal of this research was to define and assess a programme for managing LBP. In three experimental single-case studies, we wanted to describe the effects of involvement in this intervention on pain intensity, pain interference (pain interference), and self-reported impairment. We also looked at the intervention's safety by keeping track of any negative reactions[18]. In spite of the fact that there have been thinks about assessing the impact of a few assembly techniques on scope of development, ~0-t 3 no examinations have inspected the impact of an individual lumbar preparation on low-back torment. The aftereffects of this exploration ponder demonstrates that the Kinesio Taping preparation with development system in the administration of CLBP can oversee better torment, inability and ROM when contrasted with Traditional Physical Therapy assembly. As indicated by aure and aggregate upgrades in developments were more in manual treatment gather when contrasted with the patients in practice treatment gathering. While estimating the aftereffects of the examination it was discovered that there is noteworthy change in both the gatherings.

Germany has a high prevalence of low back pain, according to primary epidemiologic data from the Federal Health Survey, the Lübeck Back Pain Research, and a multicenter research by the German Back Pain Research Association, among other sources. Depending on the time period examined (point prevalence vs. seven-day, three-month, and one-year prevalence), it ranges from 30 to 70% among Germans (aged 18 to 24)[18]. In a Nigerian hospital, 74% of nurses reported having low back pain[19]. Furthermore, persons with LBP appear to exhibit perceptual problems comparable to those seen in these populations, such as diminished tactile sensitivity, altered body perception, and disruption of the working body schema. In light of these findings, we wanted to see if there was a way to treat LBP that specifically addressed cortical dysfunction and probable body perception issues[20].

According to this study, Traditional Physical Therapy in connection with patients who have low back pain exhibits critical and prompt sufficiency in pain and range of motion (ROM) in pre and post interventional scores. There weren't many studies that examined these two techniques for treating persistent, nonspecific low back pain, but it was learned that they were used either alone or in combination with other physiotherapy drugs to test their efficacy.

CONCLUSION

Kinesio Taping with Traditional Physical Therapy affect the ROM and modulate pain. These techniques enable an adequate early reaction while requiring fewer hospital or clinic visits and are non-invasive. It is suggested that more research be done on huge scale.

Competing interests: Nil

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