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COMPARATIVE STUDY OF CONVENTIONAL EXERCISE WITH CORE STRENGTHENING THROUGH PILATES ON PAIN, ROM, FUNCTIONALABILITY IN SUBJECTS WITH LOW BACK PAIN

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ABSTRACT

Background : Low back pain (LBP) is one of the most common causes of disability, and the Pilates method has been associated with improvements in symptoms. Low back pain (LBP) is the most common musculoskeletal condition affecting the adult population, with a prevalence of up to 84%.LBP symptoms can derive from many potential anatomic sources, such as nerve roots, muscle, fascial structures, bones, joints, inter-vertebral discs (IVDs), and organs within the abdominal cavity. Pilates sessions can help muscle conditioning in healthy adults, when compared to doing no exercise.They strengthen core support for the back, teach good alignment, and provide gentle stretches for tight back muscles.

AIM : To compare the effectiveness of Pilate based exercise and conventional exercise in low back ache individuals

NEED OF THE STUDY: Normally patients with low back ache are given back strengthening exercises .Core muscles are the most neglected muscles and they have to be strengthened. Very few studies were done on core strength impact on reducing low back ache.

OBJECTIVE: To study the effectiveness of Pilate exercise and regular back exercise on pain reduction with the help of VAS. To study the effectiveness of Pilate exercise and regular back exercise on functional ability with the help of functional scale (oswerthy disability index).

DESIGN OF THE STUDY: experimental study

INCLUSIVE CRITERIA:

Gender : women; age : 30 - 40 yrs ; Nonspecific back pain (sub acute)

EXCLUSIVE CRITERIA:

Age < 30yrs and > 40yrs

Male

Back pain due to nerve involvement like sciaticaRecent Fracture Disc pathology

Bony deformities (scoliosis , hyperlordosis)Degenerative diseases

METHODOLOGY: 30 subjects for taken through simple randomized method(lottery method). They are divided into two groups 15 each.

Group A (Experimental group) are given Pilate exercise for 6weeks; 3/ days ina week; 2 times a day.

Group B (Control group) are given normal back exercises

RESULTS: Pilates will be effective in increasing trunk range of motion and decrease in pain over a duration of 6 weeks when compared with conventional exercise

CONCLUSION: the experimental group treated with pilates had significant increasing trunk range of motion over a duration of 6 weeks compared to control group treated with conventional exercise.

INTRODUCTION

Non- specific low back pain (LBP) is a highly prevalent condition, which is associated with disability and work absenteeism worldwide[1]. Low back pain (LBP) represents the most common cause of disability in persons under 45 years of age[2]. Non-specific low back pain is affecting people of any age group and it's on the top as disease burden all over the world. Low back pain is experienced once in a life time in 50% to 80% of normal and healthy people and among these people, 80% of problem occurs in lumber area[3].

LBP have been embraced by physiotherapists. Techniques evaluated in the literature to date address muscle activation directed at the inter vertebral segment via the co contraction of the deep abdominals and the para spinals, enhancing stabilization at the lumbar spine segments.[4]

Prevalence rate of low back pain is 7% to 33%and the life time prevalence is nearly 85% [5].Nearly 60 per cent of the people in India have significant back pain at some time or the other in lives[6]. Globally, in 2016, low back pain (LBP) contributed 57.6 million of total years lived with disability Low Back Pain Guidelines regularly recommend the use of physical exercise for non-specific LBP. There is no evidence available to show that one type of exercise is superior to another, and participation can be in a

group or in an individual exercise program.[7]

Clinically, the low back pain does not present in worse form and thus patients continue with their routine work and go for little medical care. There are two treatment strategies in use. A stepped approach that starts with ordinary care and is progressed according to the patient's condition. Other way is the sue of risk prediction method to give individual care to each patient[8].

AIM OF THE STUDY

To compare the effectiveness of pilates based exercise and conventional exercise in low back ache individuals

NEED OF THE STUDY

Normally patients with low back ache are given back strengtheningexercises.

Core muscles are the most neglected muscles and they have to bestrengthened.

Very few studies were done on core strength impact on reducing lowback ache.

So need of the study is to focus on core muscles strength using pilatesand their impact on decreasing low back pain.

HYPOTHESIS

Null hypothesis: Pilates has no significant effect on pain, range of motion in subjects with non specific low back pain.

Alternate hypothesis: Pilates has a significant effect on pain, range of motionin subjects with non specific low back pain.

OBJECTIVE

- To compare the effectiveness of pilate based exercise and conventional back exercise in low back ache individuals on pain reduction using **VAS**
- To compare the effectiveness of pilates based exercise and conventional back exercise on range of motion of lumbar spine by using **INCH TAPE**
- To compare the effectiveness of pilate exercise and conventional back exercise on functional ability by using functional scale (**OSWERTHY DISABILITY INDEX).**

REVIEW OF LITERATURE

1) Effectiveness of Pilates exercises on non-specific low back pain to determine pain and disability. A 100 non-specific low back pain subjects were randomly selected for this experimental study. Subjects are allotted in two groups. Group A receives Pilate's exercise and Group B receives conventional exercise. Exercises were given for 3 times a week for 12 weeks This study concluded that pilates group showed significant improvement than other group.

2) Application of Pilates-based exercises in the treatment of chronic non- specific low back pain. compared the influence of Pilates and McKenzie methods on pain intensity, a group of 36 men at the age of 40–55 years it is a 6week session that showed there was a significant difference in general health in favour of Pilates

3) Immediate effects of Pilates based therapeutic exercise on Postural Control of young individuals with non-specific low back pain: a randomized controlled trial

4) Pilates-Based Therapeutic Exercise: Effect on Subjects with Nonspecific Chronic Low Back Pain and Functional Disability: A Randomized Controlled Trial Thirty-nine physically active subjects between 20 and 55 years old with chronic LBP were randomly assigned to 1 of 2 groups. The specific-exercise-training group participated in a 4-week program consisting of training on specialized (Pilates) exercise equipment, while the control group received the usual care. There was a significantly lower level of functional disability) and average pain intensity in the specific-exercise-training group than in the control group.

5) Comparing the Pilates method with no exercise or lumbar stabilization for pain and functionality in patients with chronic low back pain: systematic review and meta-analysis.

6) Efficacy of the Pilates method for pain and disability in patients with chronic nonspecific low back pain: a systematic review with meta- analysis. Systematically review the available evidence on the efficacy of the Pilates method in patients with chronic nonspecific low back pain. Searches were performed in MEDLINE, EMBASE, PEDro, SciELO, LILACS, CINAHL and CENTRAL in March 2013. Pilates was better than a minimal intervention for reducing pain and disability in patients with chronic low back pain.

7) Effects of the pilates method on kinesiophobia associated with chronic non-specific low back pain: Systematic review and meta-analysis. Randomized clinical trials assessing the effectiveness of the Pilates method in the treatment of kinesiophobia in patients with chronic non- specific low back pain. There is a favorable effect of the Pilates method compared to minimal intervention or no treatment in reducing kinesiophobia associated with chronic non-specific low back pain, with a moderate quality of evidence.

8) The effectiveness of 12 weeks of Pilates intervention on disability, pain and kinesiophobia in

patients with chronic low back pain: a randomized controlled trial. A total of 64 participants with chronic non-specific low back pain were included. Participants were randomly allocated to intervention group consisted in Pilates intervention during 12 weeks. Pilates is effective in the management of disability, pain and kinesiophobia.

9) Effectiveness of mat Pilates or equipment-based Pilates exercises in patients with chronic nonspecific low back pain: a randomized controlled trial. A 2-arm randomized controlled trial with a blinded assessor was conducted. The study was conducted at a private physical therapy clinic Eighty-six patients with chronic nonspecific low back pain participated this test concluded that equipment-based Pilates was superior to mat Pilates.

10) Effectiveness and Cost-Effectiveness of Different Weekly Frequenciesof Pilates for Chronic Low Back Pain: Randomized Controlled Trial.

LOW BACK PAIN:

Low Back Pain Is Defined As "Pain and Discomfort, Localized Below The Costal margin and above the inferior gluteal folds, with or without leg pain"[3]. Another definition, according to S.Kinkade, which resembles the European guidelines is that low back pain is "pain that occurs posteriorly in the region between the lower rib margin and the proximal thighs"[4]

Low back strain can be caused by: Extreme physical exertion. Falling. Bending or crouching repeatedly. Lifting heavy objects if you are not in shape. It can also be caused by emotional stress, improper posture, being overweight, out of shape, or sitting in the same position for long periods of time. LBP symptoms can derive from many potential anatomic sources, such as nerve roots, muscle, fascial structures, bones, joints, intervertebral discs (IVDs), and organs within the abdominal cavity. Acute: Pain that comes on suddenly (few days to few weeks); Subacute: pain lasting between 6 weeks and 3 months, Chronic: Pain that lasts more than 3 months , age: > 30 years are more prone .occupation: housewives. Causes: strains and sprains, fractures, bony pathology, disc pathology, structural problems. Symptoms: pain which increases during activity (bending, lifting object), difficulty in daily activities, difficulty in prolonged sitting

The effectiveness of therapeutic exercise in the treatment of chronic LBP is currently under review. General conditioning programs to train strength and endurance of the spine musculature have been shown to reduce pain intensity and disability and to be useful in the treatment of nonspecific chronic LBP and activity-related spinal disorders

Much of the literature examining chronic LBP and exercise interventions study a population whose pain and disability. It follows that exercise-training programs directed generally at muscle strength, endurance, and reconditioning are appropriate. However, physical deconditioning may not be the limiting factor to recovery for many patients seeking treatment for chronic low back disorder. It is now

accepted that muscle dysfunction in chronic LBP may not simply be a problem of muscle strength or endurance.

Anatomy : multifidus; erector spinae; spinalis; latismus dorsi **Multifidus :** Origin: Posterior sacrum, posterior superior iliac spine, aponeurosis of the erector spinae, sacroiliac ligament, mammillary processes of the lumbar vertebrae, transverse processes of T1-3, articular processes of C4-C7. Insertion : insert onto the spinous process of each vertebrae in the spinal column, except C1. **Erector spinae :** it is divided into 3 iliocostalis, latissmus, spinalis. iliocostalis originates from the sacrum, erector spinae aponeurosis, and iliac crest. Insertion 12th to 7th ribs). Last 6 ribs to the first 6 ribs, posterior tubercle of the transverse process of C6-C4[32].

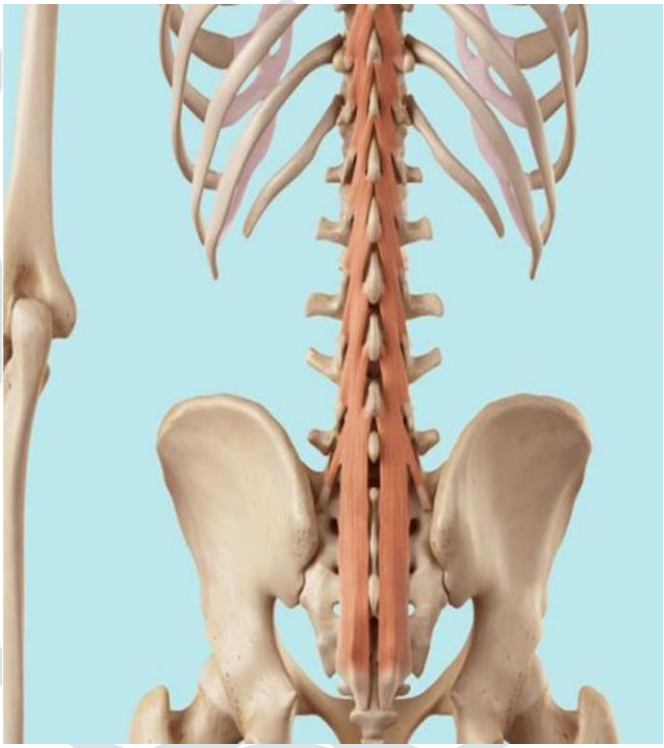


Figure 1 : Multifidus muscle

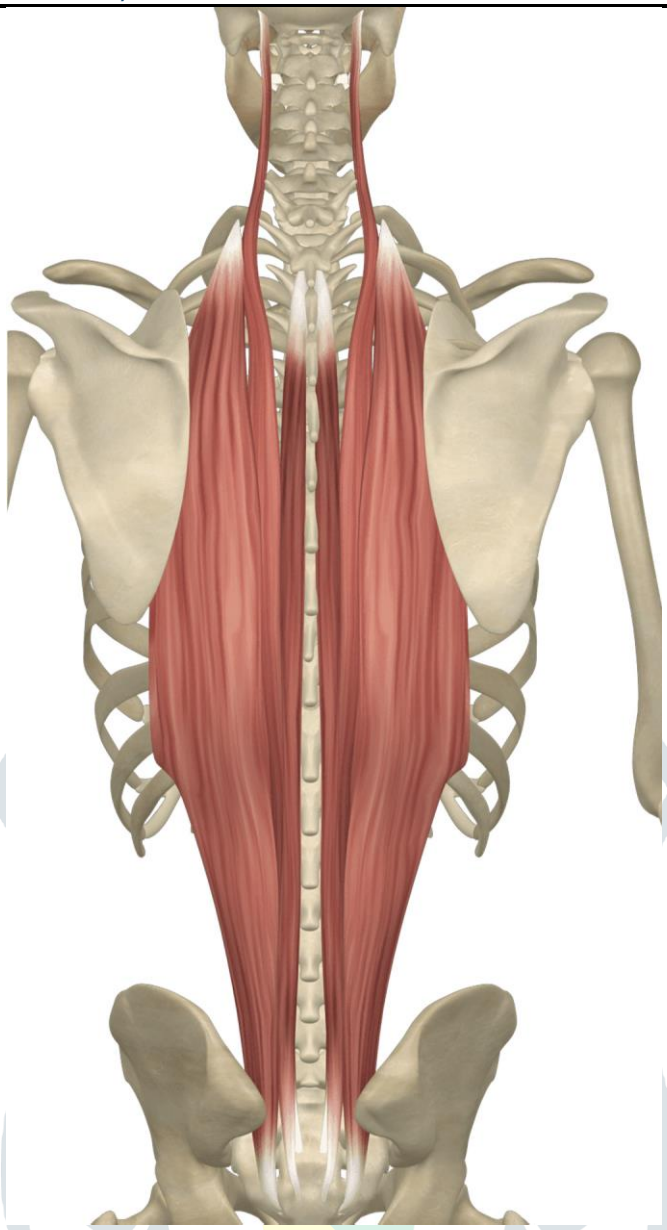


Figure 2 : Erector spinae muscle

PILATES

Pilates is low impact workout effective in strengthening muscles through controlled , repetitive movements, building muscular endurance and stability. It a type of mind-body exercise.Pilates are group of organized exercises that are mostly used in low back pain patients for strengthening purpose. This method of treatment has directly restored the functional perspective of muscles that are involved in lumbo pelvic stabilization, like transverses abdominis, diaphragm, multifidi and pelvic floor musculature.[18]

It not only strengthens muscles but also improves posture andflexibility.

The Pilates Method is a unique approach to training in mind-body awareness and control of movement and posture. Pilates techniques aim to specifically train the “core muscles” sub-maximally to increase the tone and strength of these muscles to lengthen and stretch the lumbar spine thus decreasing compression of the joints, and cause an alteration in the tilt of the pelvis[19].

Pilates sessions can help muscle conditioning in healthy adults, when compared to doing no exercise

Moves in Pilates are designed to engage multiple body parts simultaneously, often strengthening one muscle group while stretching another

1. Centring—activisation of core muscles, 'powerhouse': transversus abdominis, diaphragm, abdominal oblique muscles, multifidus, pelvic floor muscles, during exercise. These muscles are involved in stabilisation of the lumbopelvic complex.

2. Concentration—focusing attention on proper performance of Pilates exercises.

3. Control—exercise is performed with concentration, control of movement and posture.

4. Precision—refers to paying attention to the quality of exercise technique. The exercises are performed only with a few repetitions (to 10 times) with gradual increase of difficulty and in proper breathing rhythm.

5. Breathing—exercises are carried out in breathing rhythm, as breathing promotes activation of deep trunk muscles.

6. Flow – smoothness during exercises and flowing transition betweenconsecutive exercises.

Anatomy : Rectus abdominis : Origin : Pubic symphysis, Pubic crest, Insertion : Xiphoid process, Costal cartilages of ribs 5-7; transverse abdominis: Origin: it originates from the costal margin, thoracolumbar fascia, iliac crest, and inguinal ligament. This muscle then inserts onto the linea alba, pubic symphysis, and xiphoid process; Internal oblique : origin : Anterior two-thirds of iliac crest, iliopectineal arch, thoracolumbar fascia, insertion : Inferior bordersof ribs 10-12, linea alba, pubic crest & pectin pubis.[31]

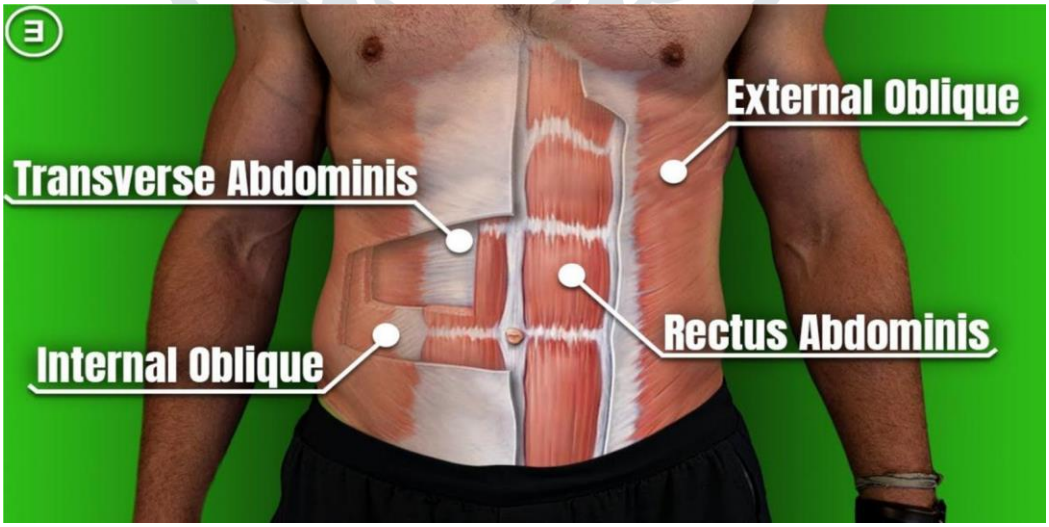


Figure 3-5 : Rectus abdominis

A modified Pilates approach to improve posture and control movement can thus be supported within a theoretical context of neuromuscular control and builds upon the concept of stability about a local spinal segment.

The objectives of this study were to investigate the efficacy of a specific-exercise intervention based on

the Pilates Method.

Pilates based exercises given are:

1. Plank
2. Single leg lifts
3. Pelvic curl
4. Cat and camel
5. Chest lift
6. Single supine twist
7. Basic back extensionBack exercises given are:

1. Back flexion stretch
2. Back extension stretch
3. Hamstring stretch
4. Piriformis stretch
5. Quadriceps stretch

Muscles that are strengthened in pilates are core muscles which include abdominal and lower back muscles

External ObliquesInternal obliques.Pyramidalis.

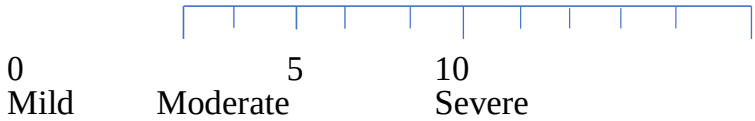
Rectus abdominis. Transversus abdominis.

OUTCOME MEASURES

The Oswestry low back pain disability questionnaire was appropriate for measuring changes in functional and pain in patients with chronic low back pain. The Visual Analogue Scale is an important measurement tool for assessing the low back pain intensity levels and symptoms

VAS: was used to measure subjective pain intensity. The subject rated his or her perceived pain level between 0 and 10, with 0 representing no pain and 10 representing pain as bad as it could be. The test protocol asked subjects to verbally state the number that best described the average amount of pain they had experienced in the past week. The number noted by the subject was recorded on the subject's record card and used for data analysis

VAS SCALE



Oswerthy Disability Index : This tool is a self-administered questionnaire listing activities that can be

compromised by LBP. It is a self-administered questionnaire consisting of 24 items to measure disability secondary to LBP

Section 1 - Pain intensitySection 2 – personal careSection 3 – lifting Section 4 – walking Section 5 – sitting Section 6 – standing Section 7 – sleeping Section 8 – social life Section 9 –travelling

Section 10 – homecare

ROM it is measured using inch tape. Lumbar flexion is measured usinginch tape.

MATERIALS AND METHODOLOGY

MATERIALS : INCH TAPE

DESIGN OF STUDY : experimental study

STUDY SETTING : COLLEGE OF PHYSIOTHERAPY, SVIMS

NUMBER OF SUBJECTS : 30 subjects between age groups 30 yrs to 40 yrswomen were taken

15 subjects were taken into experimental group and were given pilates

15 subjects were taken as control group and were given conventional exercises

SELECTION CRITERIA :

INCLUSION CRITERIA :

Gender : women

Age : 30 - 40 yrs Nonspecific back pain (sub acute)

EXCLUSION CRITERIA :

Age < 30yrs and > 40yrsMen

Back pain due to nerve involvement like sciaticaRecent Fracture

Disc pathology Degenerative diseases

Bony deformities (scoliosis, hyperlordosis)

OUTCOME MEASURES

Inch tape

Visual analogue scale Oswerthy disability index

METHODOLOGY

30 physically active subjects between 30 and 40 years old with chronic LBP were randomly assigned to two groups. (15 in each group)

Group A is given with pilates based exercise (plank, Single leg lifts, Pelvic curl, Cat and camel, Chest

lift, Single supine twist, Basic back extension).

Group B are given with back strengthening exercises (Back flexion stretch, Back extension stretch, Hamstring stretch, Piriformis stretch, Quadriceps stretch)

Values of intensity of pain, disability and ROM are noted through VAS, oswerthy disability index and ROM

Group A received a treatment protocol consisting of training on specialized (Pilates) exercise apparatus in the clinic for 1-hour sessions 3 times a week, and training in a 15-minute home program performed 6 days per week for 6 weeks. No other treatment is given to the subjects

The following materials used is a floor mat.

The home treatment protocol consisted of 2 parts:

(1) Floor exercises to specifically activate the deep antero lateral abdominals and local stability synergists and the gluteus maximus muscle by moving the leg in a manner similar to that utilized on the apparatus.

(2) Skill drills in which difficult tasks were broken down into movement components and practiced in isolation incorporating correct abdominal and gluteal control.

STATISTICAL ANALYSIS

Statistical analysis have been carried out to analyze the significant impact of the treatments issued to the subjects of both experimental and control groups of 30 subjects. First 15 subjects were taken under experimental group and next 15 subjects were taken into control group.

All 30 subjects completed entire protocol by 2 weeks of intervention and the outcome measures are VAS, ODI, ROM.

Table-1: Analysis of mean difference and standard deviation values of VAS of experimental and control groups.

	Group	N	MEAN	SD	Z-value	p- Value	Remarks
VAS	1	15	1.13	0.352	-2.607	0.009	significant
	2	15	1.60	0.507			

RESULTS:

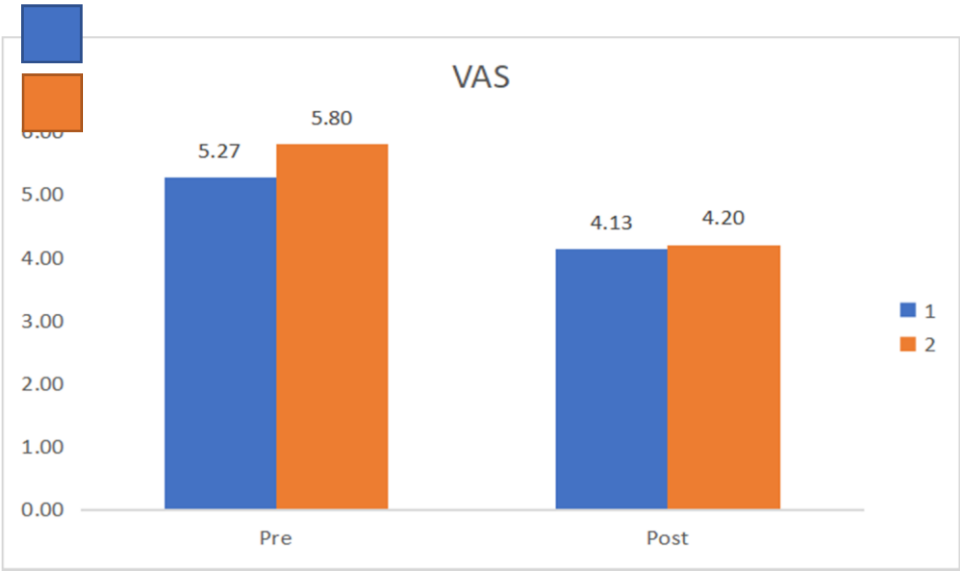
Pre and post means values of VAS of experimental groups is 5.27 and 4.13 which shows reduction in post values.

INFERENCE:

It was observed that there was a statistical significance ($p<0.05$) existing between the observation of mean for experimental and control groups with respect to VAS.

This similar type of interpretation can be observed in the following graph.

Graph - 1 : Graphical representation of pre and post values of VAS Ofexperimental group



Experimental groupControl group

There was a significant difference between pre and post intervention ofpilates in subjects with nonspecific low back pain.

Graph - 2 : Graphical representation of mean difference values of VAS inexperimental and control group

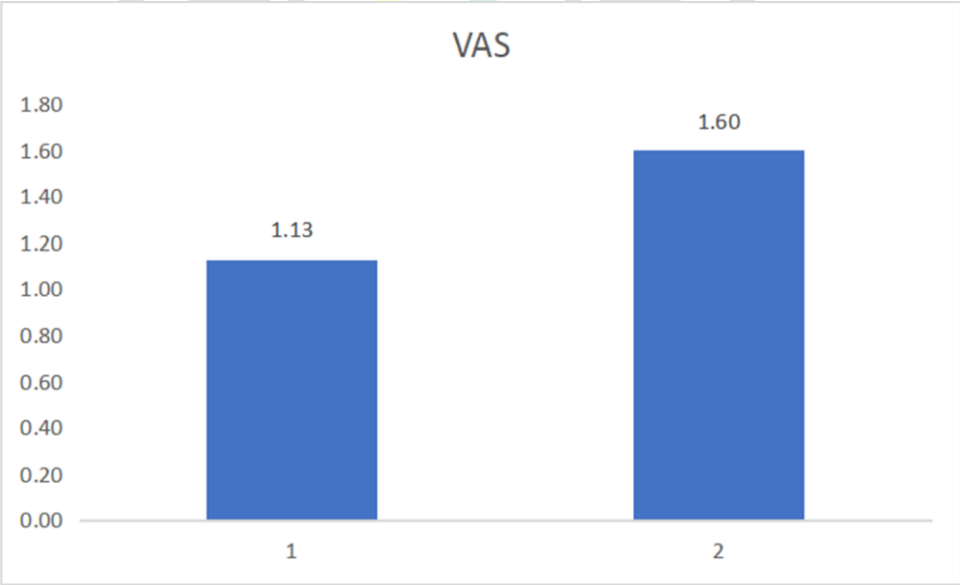


Table-2 : Analysis of mean and standard deviation of ODI of experimentaland control groups.

	Group	N	Mean	SD	Z Value	P Value	Remarks
ODI	1	15	4.73	1.534	-2.189	0.029	Significant
	2	15	3.53	1.187			

RESULTS :

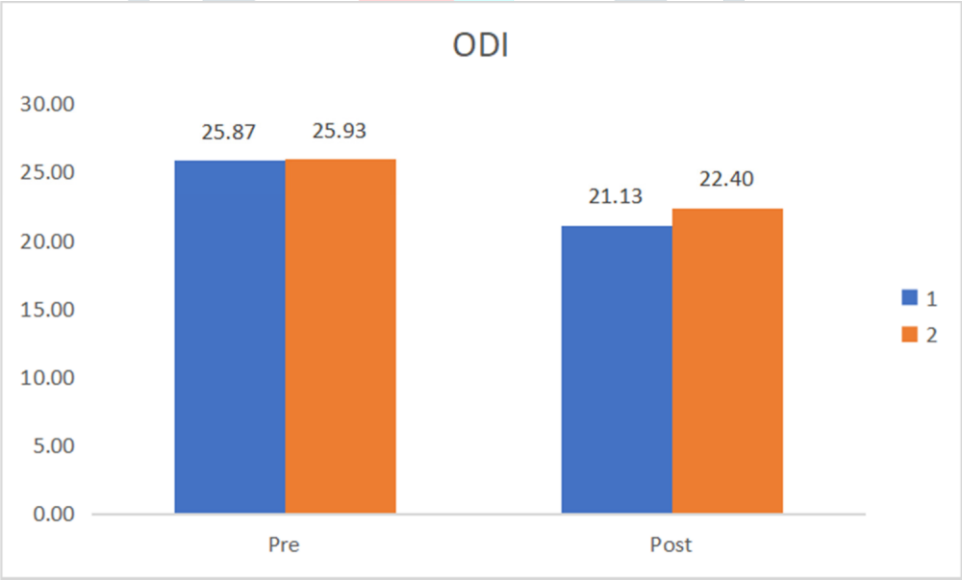
The mean values of ODI in experimental group were 4.73 and 3.53 in control group which shows significant reduction in the values.

INFERENCE:

It was observed that there was a statistical significance ($p<0.05$) existing between the observation of mean for experimental and control groups with respect to ODI.

This similar type of interpretation can be observed in the following graph.

Graph-3 : Graphical representation of pre and post values of ODI Ofexperimental and control group



There was a significant difference between pre and post intervention ofPilates in subjects with low back pain

Graph-4 : Graphical representation of mean difference values of ODI ofexperimental and control group

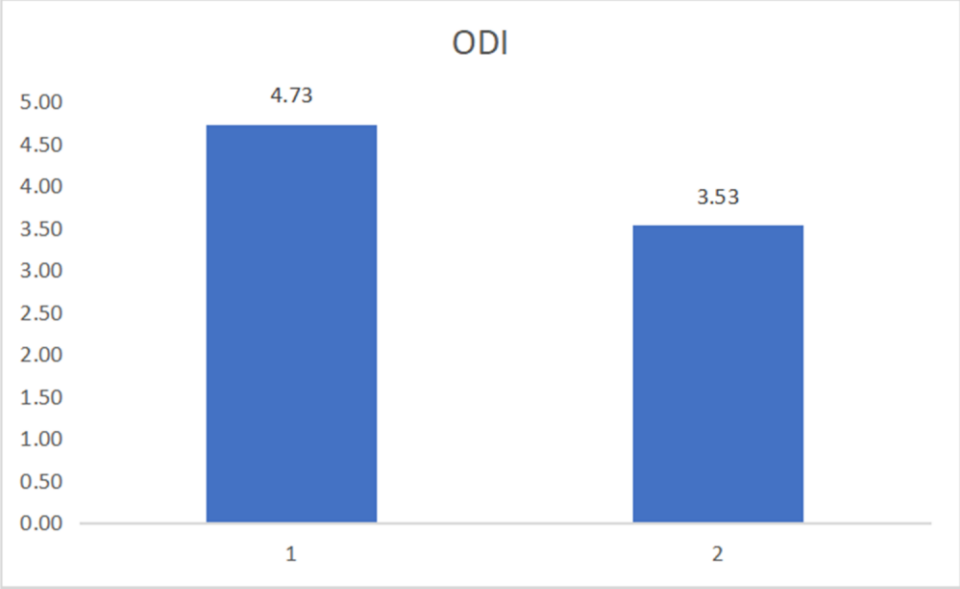


Table-3: Analysis of mean and standard deviation of ROM ofexperimental and control groups.

	Group	N	Mean	SD	Z -Value	p- Value	Remarks
Trunk Flexion	1	15	2.33	0.816	- 0.081	0.280	Not Significant
	2	15	2.67	0.724			

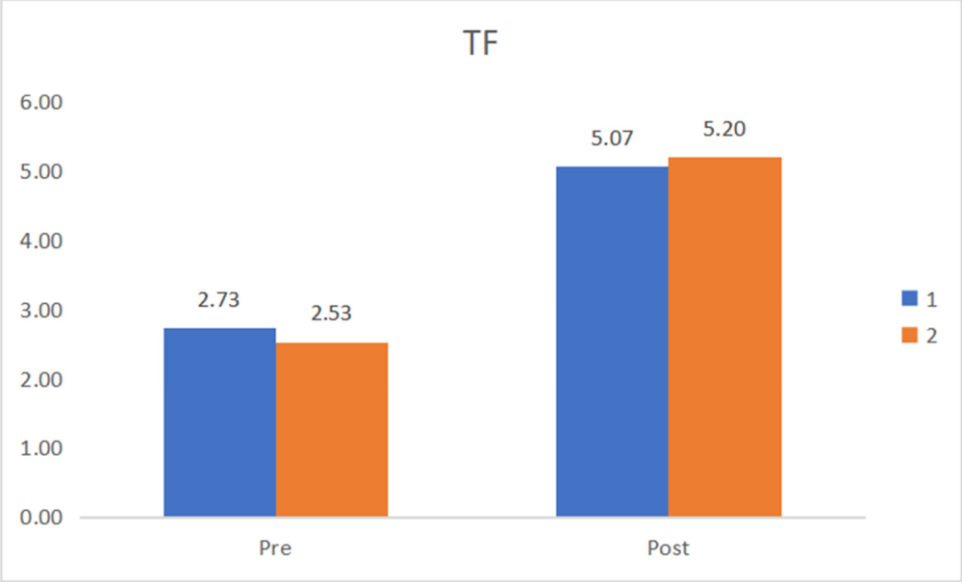
RESULTS:

Mean values of ROM in experimental group were 2.33 and 2.67 in control group which shows significant reduction in the values.

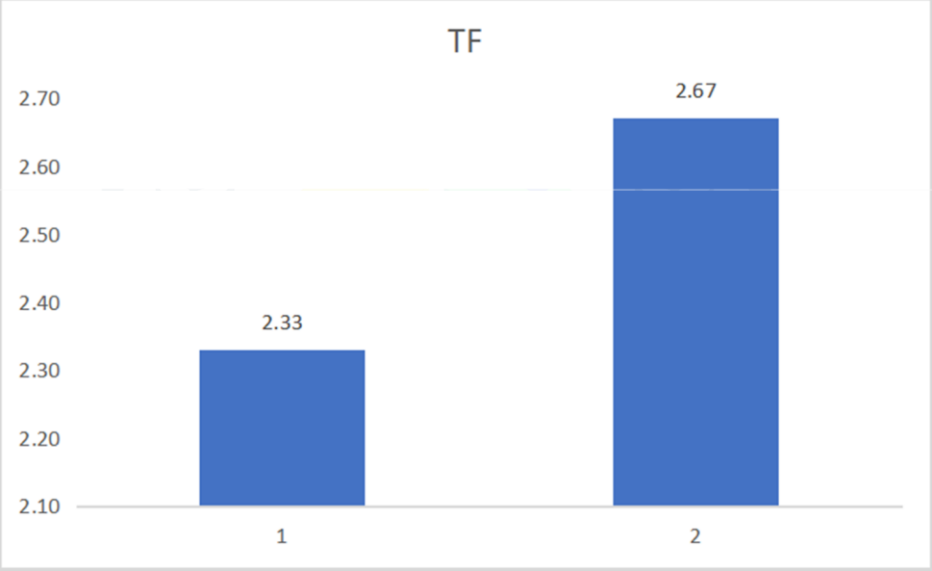
INFERENCE:

It was observed that there was a statistical significance ($p<0.05$) existing between the observation of mean for experimental and control groups with respect to ROM.

Graph - 5 : Graphical representation of pre and post values of ROM ofTRUNK FLEXION of experimental and control group



Graph-6 : Graphical representation of mean difference values of ROM OfTRUNK FLEXION of experimental and control group



DISCUSSION

It is found that 6 weeks of Pilates have shown statistically significant great effect in improving pain, functional disability and active lumbar flexion ROM than the control group treated with conventional back exercises.

In experimental group the improvement in functional disability, ROM and decrease in pain is due to pilates based core strengthening exercise. Pilates works through strengthening core muscles whose strength helps in supporting back muscles and there by decreases back pain.

Pilates works on mainly 6 principles like concentration, centring etc. It engages multiple body parts simultaneously, often strengthening one muscle group while stretching another. Hence by strengthening core muscles stretches back muscles, there by decreases back pain.

According to studies included in the 5 high-quality RCT articles that compared the effects of Pilates and minimal intervention in nonspecific CLBP patients, 6–12 weeks of Pilates training is better than minimal intervention in reducing pain in the short term, and this improvement can be clinically significant. Natour et al. reported that 12 weeks of Pilates (24 total hours of training) could reduce CLBP pain for 24 weeks.

Equipment training was included in Pilates exercise in 2 high-quality RCT articles that compared the effects of Pilates and other types of exercise on patients with CLBP. Wajswelner et al. reported that 12–14 hours of Pilates showed no statistical superiority over therapeutic exercise in patients with CLBP. This was consistent with the report by Pereira et al., indicating that for CLBP patients, Pilates and lumbar stabilization exercises showed similar effects on pain relief and functional enhancement.

CONCLUSION

It is concluded that pilates significantly found more effective in decreasing pain and improving ROM, functional disability in subjects with subacute non specific low back pain than in subjects treated with conventional exercises.

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ANNEXURES

Plank

Pelvic curls

Chest lifts

Supine twist

CONSENT FORM

I__ {name} _____voluntarily give consent to participate in the study entitled"To compare the effectiveness of Pilate based exercise and conventional exercise in low back ache individuals" . In doing so I affirm that:

- I have been given full information in my native language about the study and have understood the purpose and nature of the study and the potential risks to me resulting from my participation in the study.
- I have been given ample opportunity to ask questions, which have been answered to my satisfaction.
- I understand that my participation in the study is purely voluntary and that unwillingness/refusal to participate will not adversely affect the medical care due to me.
- I have been assured that there is no additional medical expenditure to be incurred by me on account of my participation in the study.
- That I faced no coercion to sign this consent form.
- I have been informed that notwithstanding my signing this consent, I can withdraw from the study at any point of time, without it compromising in any way, the medical care to which I am entitled.

Signature of patient	**Signature of Witness**	**Signature of Investigator**
Name of patient	**Name of Witness**	**Name of Investigator**
Date	**Date**	**Date**

6a áøo

cÓSo á£ **"To compare the effectiveness of Pilate based exercise and conventional exercise in low back ache individuals"**

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EVALUATION CHART ASSESMENT PROFORMA

NAME :

AGE :

SEX :

OCCUPATION :

ADDRESS :

CHIEF COMPLAINTS :

HISTORY:

PAIN ASSESMENT SITE/SIDE ONSET/DURATION AGGRAVATING FACTORSRELIEVING

FACTORS INTENSITY OF PAIN

VAS SCALE

0 5 10

Mild moderate severe

ON PALPATIONTENDERNESS SPASM

ON EXAMINATION: RANGE OF MOTION SENSORY EXAMINATION REFFERED PAIN

PATTERNFUNCTIONAL ACTIVITIES

OSWERTHY DISABILITY INDEXPROBLEM LIST

AIM TREATMENT

OSWERTHY DISABILITY INDEX

Section 1 – Pain intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment

- The pain is very severe at the moment
- The pain is the worst imaginable at the moment

Section 2 – Personal care (washing, dressing etc)

- I can look after myself normally without causing extra pain
- I can look after myself normally but it causes extra pain
- It is painful to look after myself and I am slow and careful
- I need some help but manage most of my personal care
- I need help every day in most aspects of self-care
- I do not get dressed, I wash with difficulty and stay in bed

Section 3 – Lifting

- I can lift heavy weights without extra pain
- I can lift heavy weights but it gives extra pain
- Pain prevents me from lifting heavy weights off the floor, but I can manageif they are conveniently placed eg. on a table
- Pain prevents me from lifting heavy weights, but I can manage light tomedium weights if they are conveniently positioned
- I can lift very light weights
- I cannot lift or carry anything at all

Section 4 – Walking*

- Pain does not prevent me walking any distance
- Pain prevents me from walking more than 1 mile
- Pain prevents me from walking more than 1/2 mile
- Pain prevents me from walking more than 100 yards
- I can only walk using a stick or crutches
- I am in bed most of the time Oswestry Low Back Disability Questionnaire

Section 5 – Sitting

- I can sit in any chair as long as I like
- I can only sit in my favourite chair as long as I like

- Pain prevents me sitting more than one hour
- Pain prevents me from sitting more than 30 minutes
- Pain prevents me from sitting more than 10 minutes
- Pain prevents me from sitting at all

Section 6 – Standing

- I can stand as long as I want without extra pain
- I can stand as long as I want but it gives me extra pain
- Pain prevents me from standing for more than 1 hour
- Pain prevents me from standing for more than 30 minutes
- Pain prevents me from standing for more than 10 minutes
- Pain prevents me from standing at all

Section 7 – Sleeping

- My sleep is never disturbed by pain
- My sleep is occasionally disturbed by pain
- Because of pain I have less than 6 hours sleep
- Because of pain I have less than 4 hours sleep
- Because of pain I have less than 2 hours sleep
- Pain prevents me from sleeping at all

Section 8 – Sex life (if applicable)

- My sex life is normal and causes no extra pain
- My sex life is normal but causes some extra
- pain
- My sex life is nearly normal but is very painful
- My sex life is severely restricted by pain
- My sex life is nearly absent because of pain
- Pain prevents any sex life at all

Section 9 – Social life

- My social life is normal and gives me no extra pain
- My social life is normal but increases the degree of pain
- Pain has no significant effect on my social life apart from limiting my moreenergetic interests eg, sport
- Pain has restricted my social life and I do not go out as often
- Pain has restricted my social life to my home
- I have no social life because of pain

Section 10 – Travelling

- I can travel anywhere without pain
- I can travel anywhere but it gives me extra pain
- Pain is bad but I manage journeys over two hours
- Pain restricts me to journeys of less than one hour
- Pain restricts me to short necessary journeys under 30 minutes
- Pain prevents me from travelling except to receive treatment

Interpretation of scores

0% to 20%: minimal disability:

The patient can cope with most living activities. Usually no treatment is indicated apart from advice on lifting sitting and exercise.

21%-40%: moderate disability:

The patient experiences more pain and difficulty with sitting, lifting and standing. Travel and social life are more difficult and they may be disabled from work. Personal care, sexual activity and sleeping are not grossly affected and the patient can usually be managed by conservative means.

41%-60%: severe disability:

Pain remains the main problem in this group but activities of daily living are affected. These patients require a detailed investigation.

61%-80%: crippled:

Back pain impinges on all aspects of the patient's life. Positiveintervention is required.

81%-100%:

These patients are either bed-bound or exaggerating their symptoms.