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A study of effectiveness of myofascial trigger point release for nonspecific low back pain in improving physical performance for computer professional

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INTRODUCTION

Back pain (also called "back pain") is pain felt in the back, usually originating in the muscles, nerves, bones, joints and other structures of the spine. Low back pain (commonly known as low back pain) is a common symptom of musculoskeletal disorders or disorders involving the lumbar spine and associated muscles, ligaments, nerves, intervertebral discs, and other soft tissue structures.

The hip joint is a complex of bones, ligaments, muscles, tendons and nerves that together make it incredibly adaptable to a variety of movements and functions. It forms a biomechanical infrastructure that anchors kinetic chains and transfers biomechanical forces into coordinated functional activities. The spine acts as a conduit for valuable neural structures and has the physiological ability to act as a lifting crane and a walking crank. This is also why they are so vulnerable to damage, which is considered an example of evolutionary evolution. Modern civilization has done little good to the way we spend long hours at desks and car seats.

Back pain is pain associated with certain activities that place undue stress on the tissues of the lower back. Back pain has reached epidemic levels in India and is one of the most common ailments in our society. It is a leading cause of hospitalization, hospitalization, surgery and work disability (S. Sridevy. Nightingale Nursing Times, 2008). The global incidence of low back pain (LBP) ranges from 1% to 5%, and the lifetime prevalence ranges from 13% to 78%. The annual incidence of occupational low back pain is about 2%, and the annual incidence is 5%. The recurrence rate of low back pain varies from 60% to 85%. Acute low back pain is one of the leading reasons for all physician visits. Some recent surveys in Spain found that the most common work-related physical problems are mainly due to maintaining the same posture and performing repetitive tasks. % of workers were found to have low back pain. even in india

The working generation has a high prevalence of low back pain. According to statistics, a total of 23.09% of people in my country suffer from low back pain, of which 57% are working population.

The World Health Organization estimates that about 52% of the population has

From back pain, according to 2003 statistics. According to the National Health Survey (2001), 6 million people nationwide suffer from back pain. The lifetime prevalence of severe back pain episodes is 60% to 90%. Back pain can be caused by a variety of reasons. It can range from a dull, annoying pain to an absolute pain. Most women are more likely than men to suffer from nonspecific back pain. Aging, hard work and heavy lifting are common triggers. Mechanical lumbar symptoms are often exacerbated by static loading of the spine due to prolonged activity (prolonged sitting or standing) (Health Rating Medical Statistics Center, Mumbai). Conditioning through flexibility and back-strengthening exercises can help

Provides pain relief for many back conditions. Strengthens the spine and the muscles, ligaments and tendons that support it. Most back exercises focus not only on your back, but also on your abs, glutes, and butt muscles. These strong core muscles provide strong support for the spine, aligning the spine and promoting spinal extension, which relieves back pain. Exercise is urgently needed as one of the nursing interventions to reduce back pain (Peter F Ullrich, 2009).

Having a strong, powerful back requires proper care and regular exercise. Many back strengthening exercises help strengthen the spine and support the muscles, ligaments, and tendons. We also pay attention. Just as steel bars can hold more weight than aluminum plates, a strong, well-aligned back can take more stress and protect the spine, which is aligned through exercise. were able.

Back pain was one of the mysteries of the 20th century and remains the leading cause of disability and suffering for a large proportion of adults (Waddle, 1998). Low back pain is a spectrum of symptoms associated with pain and discomfort originating in the lumbar spine (Chung et al., 2013; Kwon et al., 2011). Epidemiological data indicate that the annual prevalence is about 39-54%, and the lifetime prevalence is 60-65%. The prevalence of low back pain varies from 7% to 33%, with a lifetime prevalence approaching 85% (Walker, 2000).

Researchers have found that about 70%-80% of people experience this condition.

This is their once in a lifetime. (Frank et al., 1996; Wolin, 1997). in India

population, prevalence of back pain,

6.2% to 92%.

Back pain affects the physical and psychological aspects of an individual. (Grabiner et al., 1992). Back pain can limit mobility in people under the age of 45. Both men and women are equally affected, but some studies confirm that women who have had two or more pregnancies are at particularly high risk for back pain. 78% of men and 89% of women suffer from back pain. it has been.

90% of back pain is mechanical in nature and only 10% have a specific medical condition. Low back pain is a major disabling musculoskeletal disorder (Jette et al., 1994). Post-LBP disability is a major health problem in developing countries. It is one of the common conditions that cause serious health problems in developing countries. It can lead to significant absenteeism, sick days, poor functional performance and emotional distress. (Airaksinen et al., 2006).

Myofascial therapy is defined as "the promotion of mechanical, neural, and psychophysiological adaptations connected by the fascial system." Myofascial Release (MFR) is a hands-on exercise that stretches and releases

fascia and releases the bonds between muscles, skin, and fascia to eliminate pain, improve movement, and maintain internal myofascial balance. technology (Shah S et al., 2012).

Myofascial techniques include direct techniques using the knuckles, elbow, ulnar border of the hand, and fist, indirect or self-fascial techniques, indirect myofascial release using the hand, and self-release using a soft roll or ball (tennis ball). Operated by myofascial release. The purpose of myofascial release is to focus the deep layers of the fascia by stretching and bridging the elastic components of the muscle and altering the viscosity of the underlying tissue (Shah S, et al., 2012). . .

Myofascial Release (MFR) is a progressive pressure release technique used to reduce muscle tension by lengthening muscle fibers, thereby gradually increasing pressure on exercise trigger points. Studies have proven successful in reducing pressure pain sensitivity (Ellythy MA., 2012).

Research has shown the effectiveness of myofascial release in reducing chronic pain, neck pain, shoulder pain, muscle spasms, and muscle stiffness (Shah S et al., 2012). **Research purpose**

Efficacy of nonspecific low back pain myofascial trigger point release in improving physical performance of computer professionals.

METHODOLOGY

The type of study is observational Studies and Sampling Method —Intentional Random Sampling. The Duration – 3 months. The Inclusion criteria is computer professional who are suffering from non-specific back pain. The exclusion Criteria include neurological/vascular/orthopedic history, Recently injured, subject of depression, recent surgery, Recently fractured, Subjects with specific low back pain and Male subjects with a history of nonspecific low back pain. Subjects referred by computer professional who will be assessed according to the inclusion criteria. Subjects then obtained consent.

The resulting measure will be the NPRS scale. Subjects were randomly divided into two groups, A and B. Group A will conduct OKC and CKC exercises. And Group B performed CKC exercises and hip strengthening exercises. Outcome measures will be assessed at baseline before treatment on day 1 and at the end of the intervention at week 4.

STATISTICAL ANALYSIS – Once the data collection procedure is complete, the data will be analyzed using certain statistical tests to arrive at the results. Prior to treatment, all subjects were briefed on the applicable study and procedures and asked to indicate if they experienced any discomfort during treatment. They were asked to sign a consent form earlier.

PROCEDURE

According to the inclusion criteria, 30 subjects were selected. They were assigned by simple random sampling into two groups of 15 subjects each.

Thirty subjects meeting the inclusion criteria will be selected for treatment. They received visual and verbal guidance on the treatment plan.

Variable measurement:

Preprocessing measurements:

Before starting the treatment program, subjects were assessed for the following:

Pain [Score 25]

• Oswestry Disability Index [13]

Pain Score:

The degree of pain experienced by the subjects was assessed with a visual pain scale. Pain scores were recorded on a visual pain scale on a scale of 0 to 10, with 0 being no pain and 10 being intolerable pain. [twenty five]

Dysfunction: [13]

Functional impairment is measured by the OSWESTRY Disability Index. Subjects were asked to answer Oswestry Disability Index questions and select the best answer describing his/her typical pain and/or limitation in the past 1 or 2 weeks.

Failure Percentage = Total Points / 50 * 100

ODI score:

0 – 20 % - slight disability

21 – 40 % - moderately disabled

41 – 60 % - severely disabled

61 – 80 % - disabled

81 – 100 % - bedridden patients.

treatment plan:

Subjects selected for the treatment program received exercise instruction on how to do Pilates and how to perform back exercises. The selected subjects are divided into two groups. Group I included 15 subjects who received Pilates training. The second group consisted of 15 subjects who were instructed to follow myofascial trigger point release.

Subjects practicing Pilates are instructed on the techniques to follow when performing the exercises. Subjects were also taught the proper technique for myofascial trigger point release. Technological changes are discouraged.

The subjects were asked to exercise twice a day, 7 days a week, for four weeks. Subjects were examined weekly to record pain and functional impairment.

Pilates:

Plank sit ups:

Start in a plank position with forearms and toes resting on the floor. Keep your torso straight and your body in a straight line from ear to toe without slack or bend. Your head should be relaxed, looking at the floor. First hold this position for 10 seconds. It works up to 30, 45 or 60 seconds over time.

Side Plank Butt Strengthening Exercises:

15

Start by lying on the floor. Place your elbows on the floor below your shoulders. Lift your elbows to keep your body stiff from head to toe. Hold this position for a count of 10, then lower your hips to the floor. Rest and repeat 3 times. Switch sides and repeat with the other hip. You can strengthen this exercise by raising your upper leg toward the ceiling. Slowly repeat the leg lift 10 times, then return to the starting position.

Bridge exercise:

Lie on your back with your hands by your sides, knees bent, and feet flat on the floor. Make sure your feet are below the knees. Tighten your abs and glutes. Lift your hips so that your knees form a straight line to your shoulders. Squeeze your core and draw your navel back toward your spine. If your hips sag or droop, sit back on the floor. Aim to maintain a straight line from shoulders to knees and hold for 20-30 seconds. You may need to hold bridge pose for a few seconds first to build strength. It is better to maintain correct posture for a short period of time than to walk with incorrect posture for a long time.

Superman exercises:

Lie face down on the mat with arms stretched overhead (like Superman). Lift your right arm and left leg about 5 to 6 inches off the ground (or as comfortable as you can). Hold for 3 seconds, then relax. Repeat with the opposite arm and leg.

Quadruped exercises:

Get on your knees with your hands on the floor (starting position). Simultaneously raise one arm and the other leg to a horizontal stretch position and hold for desired time (end position). Return to the starting position and repeat with the opposite arm and leg.

Back exercises: [26]

Stretching the muscles is an important part of the healing process of tense muscles in the back. The shortened back musculature must be lengthened to prevent further pulling on the already shortened fibers. Back strengthening exercises can help increase the stability of weak tissues.

The exercises below are common exercises to help increase flexibility and stabilize the back.

Dorsiflexion stretch:

Subjects were asked to lie on their back and draw their knees to their chest while bending their head forward and in a circular position for a comfortable stretch. Hold for 8 to 10 seconds at a time and repeat 8 to 12 times.

Back stretching exercise:

The subject lies prone while pushing the chest up with the hands while keeping the pelvis flat on the floor. Push up on your back until you find a comfortable stretch in the extended position. Hold for 8 to 10 seconds at a time and repeat 8 to 12 times.

Hamstring stretch:

Subjects were asked to sit on the floor with one leg extended and the other comfortably bent in front of the body. Bend at the waist and lean forward, keeping your back as straight as possible. Extend your arms toward your legs until you feel a stretch under your thighs. Hold the stretch for at least 30 seconds and repeat 3 times.

Piriformis Stretch:

The subject lies supine, bends the right leg, and lifts the right knee toward the opposite chest with the left hand. A stretch should be felt in the piriformis region of the right hip. To stretch the piriformis region on the left side of the hip, do the exact opposite. Hold the stretch for 30 seconds and repeat 3 times.

Quadriceps Stretch:

Subjects were asked to stand on a firm surface for support and bend their left leg back. Grab your left ankle and draw your foot toward your left hip while simultaneously pulling your left thigh back and straightening your back. Hold the stretch for at least 30 seconds and repeat 3 times.

4.12. Statistical tools

Statistics plays an important role in any research endeavor. For clear, organized scientific explanations and relationships between statistics of two variables. Statistics in education are used to draw conclusions and make decisions in tests after considering data.

Table 1: Descriptive statistics of pain scores and disability grades before and after treatment in Group I (Pilates).

S. No.	**scope**	**number sample**	**average Previous**		**average the difference**	**SD Previous**	
1	pain score	15	5.245	1.45	3.76	0.596	0.59
2	functional Disability class	15	14.99	6.51	8.52	2.579	1.00

explain:

The table above shows the descriptive study (mean, mean difference and standard deviation) of Group 1 pain scores and disability ratings before and after treatment.

Descriptive statistics of pain scores and myofascial trigger point release injury grades before and after treatment).

S. No.	scope	number sample	average Previous		average the difference	SD Previous	
1	pain score	15	4.25	3.00	1.25	1.26	0.82
2	functional Disability class	15	13.50	10.50	3.00	2.52	2.52

The table above shows the descriptive study (mean, mean difference and standard deviation) of pain scores and disability grades before and after treatment in Group II.

Table 3: Comparative statistics (paired "t" test values) of pain scores in groups I and II (before and after treatment).

S. No.	group	number sample	Pain score increases mean SD		"t" value	"p" value
1	I	15	3.76	0.97	4.62	0.0039**
2	II	15	1.26	0.51		

Note: ** means significant at the 1% level.

*** indicates significance at the 5% level.**

Based on paired "t" test values and "p" values, there was a significant difference at the 1% significance level between groups I and II in pain scores before and after treatment.

Table 4: Comparative statistics of injury between groups I and II before and after treatment (paired "t" test values).

S. No.	group	number sample	Pain score increases mean SD		"t" value	"p" value
1	I	15	8.51	3.44	3.06	0.022*

2	II	15	3.00	1.16		

Note: ** means significant at the 1% level. * indicates significance at the 5% level.

Based on the paired "t" test values and "p" values, there was a significant difference at the 5% significance level between the level of injury between Group I and Group II before and after treatment.

Discussion

• The mean, mean difference and standard deviation of pain scores and disability grades in group I before treatment (0 weeks) and after treatment (4 weeks) are shown in Table 1.

• The mean, mean difference and standard deviation of pain scores and disability grades in group II before treatment (0 weeks) and after treatment (4 weeks) are shown in Table 2.

• Paired 't' tests and 'p' values for Group 1 and Group 2 pain scores are shown in Table 3.

• Table 4 shows the "t" test values and "p" values for the pairs of damage grades between group 1 and group 2.

• The analyzes in Tables 3 and 4 were performed using paired 't' tests. Significance levels are calculated based on "p" values between groups.

results

• The mean, mean and standard deviation of pain scores and disability grades before and after treatment in Group I (Pilates) are reported in Table 1 and in the post-treatment plan.

• The mean, mean difference and standard deviation of pain scores and injury grades before and after treatment in Group II (myofascial trigger point release) are recorded in Table 2. Analysis of the data showed that pain scores and disability both decreased by grade. before and after treatment regimen.

• The significance of reductions in pain scores and disability grades between the Group I pre- and post-treatment regimens and Group II pre- and post-treatment regimens was compared using paired "t" tests. broken.

• See Table 3 and Table 4 for the significant comparison of pain incremental score and disability grade incremental score between Group I and Group II.

• Figures 1, 2, 3, 4, 5, and 6 show the graphical representation of the interprocedural mean pain scores and disability ratings before and after treatment, respectively.

• Compared with the second group, the first group experienced significantly less pain and disability before and after treatment.

Discussion

AHLQWIST A et l reported increased LBP in children and adolescents. [4] The literature suggests that children with low back pain develop this condition in adulthood. Therefore, it is important to prevent and treat LBP in adolescents.

SKOFFER B, FOLDSPANG A (2008) indicated that LBP may be associated with physical inactivity. [8] There are few studies on back pain in children and adolescents **(MC GRATH 1990)** .

In recent years, more subtle stressors -- static and incorrect posture -- have become common causes of back problems. Assumed decreased muscle flexibility and core strength

as a risk factor for back pain. Tight hamstrings and weak abs are linked to mechanical back pain.

The aim of this study was to compare the effectiveness of Pilates and myofascial trigger point release in reducing pain and disability in adolescents with nonspecific LBA.

Myofascial trigger point release improves muscle, bone and ligament strength. Improves spinal mobility.

ROBERT J DUAL (2005) concluded that stretching and strengthening the muscles around the back can reduce pain by reducing pressure on the hips and hips and significantly reduce the progression of low back pain. T.22_ –

Proper posture care when lifting, sitting, standing and lying down can help reduce stress on the structures of the spine.

JOHN SCHUBHE, DC (2004) states that failure to maintain correct posture and proper back support can strain muscles and put stress on the spine. twenty three

Bad posture can cause spinal pain, exacerbate existing pain and of course make it last longer, says **JEANNE MARKUSIC .** twenty four

In this study, Pilates was followed by Groups I and II with myofascial trigger point release only.

Results showed that Pilates was more effective in reducing pain and disability than myofascial trigger point release alone in adolescents with nonspecific low back pain.

CONCLUSION

The results of this study suggest that myofascial trigger point release is effective in reducing pain and dysfunction in adolescents with nonspecific low back pain.

LIMITATIONS

- Subjects were not randomized by severity.
- Subjects with no recent injuries are to be taken for study.
- The study was limited to computer professionals with nonspecific back pain.
- Depressed subjects did not participate in the study.

- The study consisted of only 30 patients and was a small control group for accurate results
- The study duration was limited to include a large number of patients.
- Drugs, psychosomatic factors, environment and other interacting factors cannot be controlled.

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