Acta Scientific Orthopaedics (ISSN: 2581-8635)

Volume 3 Issue 6 June 2020

Research Article

Effect of Dry Needling on Sciatic Nerve Compression Arising from Piriformis Syndrome

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Received: April 07, 2020

Published: May 19, 2020

Abstract

Objective: To show the impact of dry needling in piriformis syndrome-induced sciatic nerve compression.

Materials and Techniques: The research was performed in the physiotherapy department at Palestine Ahliya University. Patients with sciatica were randomly gathered. The sample was 20 individuals, 20 - 55 years old. They were split into two groups, Group A with 10 patients, receiving conventional therapy over 2 weeks for 6 sessions. Group B with 10 patients received one single session of dry needling treatment. The resulting measurements were used for pain (VAS), functional evaluation (ODI) and anxiety (HADS).

Results: The P-value in group therapy pain after group therapy was 0.052, slightly above 0.05. Therefore, there is no significant difference between the two treatments, but effect size calculations suggest that pain in patients is reduced by the dry needle more than conventional treatment. For (ODI) outcomes, there was no significant difference between groups greater than 0.05 after treatment with P-value = 0.089, but effect size calculations suggest that conventional therapy enhances more than dry needling function for sciatica patients. The test for post-therapy results showed a P value of 0.52 for anxiety results. This value exceeds 0.05, so we deduce that after therapy there is no statistically significant distinction in outcomes of HADS anxiety between group A and group B. However, because the pre-scores are not similar, this outcome does not imply much.

Conclusion: Dry needling therapy is better than conventional therapy in reducing pain.

Keywords: Sciatica; Piriformis Syndrome; Dry Needles; Stretching Exercises

Introduction

Sciatica is a disease characterized by radical leg pain that radiates along with the distribution of the sciatic nerve, with or without sensory deficits. It is triggered by an intervertebral disk herniation that results in nerve root irritation in about 90 percent of instances. It may be one of the most prevalent reasons that medical intervention is needed, but it also has an important effect on health care resources and Loss of productivity, diagnostic techniques and sciatic therapy have been distinguished within and between nations, which may influence the accessibility of therapy, clinical preference and socio-economic factors rather than evidence-based practices [1].

Piriformis syndrome is an elusive clinical entity. It is shown by pain in the buttocks, spreads to the foot with a variable element of sciatic nerve irritation and is a likely most prevalent cause of additional spinal sciatic [2]. The piriformis muscle derives from the anterior part of the sacral bones 2 through 4 and inserts precisely the larger trochanter on the femur's head [3,4].

Dry needles are therapeutic techniques used with those who do not react to therapy kinds, whether medicinal or clinical [5,6], who use a thin filiform needle to penetrate the skin and boost the underlying myofascial triggers, muscle and connective tissues to manage neuromusculoskeletal pain and impairment of motion.

Dry needling (DN) is a method used to treat skeletal muscle, fascia, and connective tissue issues and to decrease persistent peripheral nociceptive input and to decrease or restore impairments in body composition and function leading to enhanced activity and involvement [7].

Stretching is a form of workout in which specie muscle or tendon is intentionally flexed or extended to enhance muscle flexibility and convenience to enhance joint motion and decrease muscle tension as well as activate blood circulation, comparative muscle pain prevents injury, some of these are popular goals of stretching [8].

Massage is used to increase the rate of repair, regeneration, and restoration of skeletal muscles following injury or intense athletic

activity (physical exercise) When used as a therapeutic intervention to treat soft tissue lesions, massage promotes damaged tissue to recover tensile strength quickly and cure with a flexible, functional scar. It has been suggested that certain kinds of massage can influence healing by enhancing local blood flow to improve muscle blood flow to improve the removal after the practice of metabolites such as lactate and hydrogen ions and waste products of myofibril harm that necrosis after injury, Improve recovery and recovery rates [9].

In patients with sciatic nerve compression, few studies have revealed neurophysiological and clinical impacts of dry needling. The objective of this research was, therefore, to show the efficacy of dry needles on sciatic nerve compression arising from piriformis syndrome compared to conventional therapies.

Materials and Techniques

This research was carried out at the Physiotherapy Center at the University of Palestine Ahliya's Faculty of Allied Medical Sciences. An experimental study of sciatic nerve compression, people aged between 20 and 55 years. A total of 20 patients were split equally by easy random sampling (Group A and B) into two groups. Group A, 10 patients; conventional therapy (Moist warm, therapeutic massage and stretching ex) was given. Group B, 10 patients got dry needling treatment only.

Inclusion criteria

1. Group of 20 to 55 years of age.
2. Participants of both men and women.
3. Gluteal pain radiates through the back and lowers limb of the thigh.
4. Straight-legged patient increase positive below 60 degrees.
5. Fair test should be positive.
6. Sub-acute and chronic compression of the sciatic nerves diagnosed.
7. Piriformis syndrome on one side.

Exclusion criteria

1. Intermittent vascular claudication.
2. Spondylolisthesis.
3. History of vertebral fracture.
4. Disc pathology and mechanical back pain.
5. History of spinal surgery.
6. Spinal tuberculosis, rheumatoid disease.

Instrumentations

Tests

FABER (Patrick's) test: It is designed to evaluate the source of the pain of the patient for the sacroiliac joint or hip joint. The supine tested arm of the patient is positioned where the knee is flexed and on the opposite knee, the ankle is positioned. The hip is put in flexion, abduction, and external rotation (from which the name FABER originate) the examiner applies a subsequently directed force toward the tabletop against the bent leg's medial knee. When groin pain or buttock pain is generated, a positive test happens. Because of the strengths of the hip joint, the patient may also experience pain if the disease is also in the hip [10].

The straight leg is a passive test: Each leg was tested individually with the normal leg being tested first. When the SLR test is performed, the patient is placed under his/her head in the supine without a pillow, the hip rotated and adduced medially and the knee extended. The clinician lifts the patient's arm by the back ankle while maintaining the knee completely extended. The clinician continues to raise the patient's arm by bending on the hip until the patient complains of back or back pain or tightness [11].

FAIR test: Simultaneous downward pressure on the flexed knee and passive superolateral shin motion, both vertically focused acetabula, maximizing adduction and internal rotation on the flexed thigh. This stance is also essential for the treatment of piriformis syndrome [12].

Measurements

The demographic information was evaluated for each patient, so the assessment was performed before and after therapy for each patient of the two groups. The evaluation procedure included:

1. **Pain Assessment:** Visual analog scale (VAS): It is a scale created by Price., et al. The severity of pain in the patient is measured. It has a length of 100 mm and is named as two ends on a vertical or horizontal row (zero = no pain, 100 = the worst pain). The patient is asked to mark a point that matches the intensity of pain he/she feels on this line. The distance between the specified stage and the smallest end of the row (zero = no pain) is measured in millimeters and the number discovered shows the pain intensity of the patient [13].
2. **Functional Assessment:** The Oswestry disability index (ODI): It is a questionnaire of 10-item self-assessment; each item includes six response rates that can be scored from zero to 5. These products are a pain, personal care, objects that lift and move, walking, sitting, standing, sleep disturbances triggered by low back pain, gender life, social life, and travel. The proportion of disability (score achieved divided by 50 and multi-

plied by 100) varies from 0 percent (no disability) to 100 percent (full disability). The interpretation of this scale is based on results of 0 to 20%, minimum disability of 20 to 40%, mild disability of 40 to 60%, Severe disability from 60 to 80 percent of people with low back pain are restricted to bed, i.e. excessive disability [14].

3. **Anxiety:** Hospital Anxiety and Depression Scale (HADS): It is commonly used for predicting and diagnosing anxiety and depression in hospitals. It was translated and validated in many languages, but in hospitalized patients, the current Arabic version was not validated. The HADS involves 14 items evaluating anxiety (7-item) and depression (7-item) rated on a Liker-type4-point (0 to 3). The results in each subscale are calculated by summing the respective items for each subscale, with highest results of 21. A score of 0 - 7 is deemed normal, 8 - 10 is regarded as a borderline case and 11 - 21 as a case (anxiety or depression) [15].

Instruments for treatment

Dry needling therapy

This group involves 10 patients, in the therapy of all patients in this group, dry needle methods will be implemented, one session only for 5 minutes. The dry needling methods implemented as follows, the patient will be lying on one side with complete hip flexion on the impacted side towards the roof.

Figure 1: Piriformis muscle dry needling technique.

Conventional treatment

This group involves 10 patients, in the therapy of all patients in this group, got conventional treatment for 10 minutes with 15 minutes of warm packs and therapeutic massage and underwent 3-week stretching exercises for 6 minutes, this therapy usually starts with superficial effleurage and other warming methods to decrease muscle tension [12]. Massage therapists placed direct pressure on the length of the piriformis with their hand until they feel some tissue relaxation. Myofascial point treatment and longitudinal removal techniques can assist in loosen the area to reduce tension. The exercises for stretching will apply as follows.

Supine piriformis stretches: Lie on the back with the legs flat. Pull the impacted arm up to the chest, hold the knee on the same side of the body with the hand and grasp the ankle on the other side. Trying to guide with your ankle, pull your knee to the opposite ankle until you feel the stretch. Do not force the ankle or knee beyond a stretch. Supine piriformis stretches done only 3 repetitions withholding the stretch for 40 seconds, then slowly return to starting position, 20 seconds rest period between repetitions in each session.

Figure 2: Supine piriformis stretches.

Buttocks stretch for the piriformis muscle: Start with all fours. Place the impacted foot over and below the body's trunk, so that the impacted knee is outside the trunk. Extend the unaffected arm directly behind the trunk and maintain the pelvis straight. Keep the impacted arm in position, scooter the hips back to the ground and lean on the forearms until a profound stretch is felt. Do not force the body to the floor. Buttocks stretch for the piriformis syndrome will be done only 3 repetitions withholding the stretch for 40 seconds, and then slowly returned to stating the position for 20 seconds rest period.

Figure 3: Buttocks stretch for the piriformis muscle.

Statistical analysis

The SPSS 24.0 version was used to investigate the difference in groups and between groups. Descriptive and frequency statistics were used to study the main characteristic of the sample. Means,

standard deviation, and percentages. Continuous variables were given as mean ± standard deviation while categorical variables were given as number and percentage. Independent samples t-test (or independent t-test for short) was used to study the similarity of demographic data between groups. Wilcoxon signed ranks test was used to study the change between pre- and post-treatment, G*Power software version 3.1.9.4. was used to calculate the effect size of the Wilcoxon signed ranks test. Power analysis was performed in G*Power for a Wilcoxon signed-rank test to determine an adequate sample size using an alpha of 0.05, a power of 0.80, a big effect size (DZ = 0.8). Additionally, Power analysis for a Wilcoxon signed-rank test was conducted in G-Power to determine a sufficient sample size using an alpha of 0.05, a power of 0.80, a medium effect size (DZ = 0.5). In addition, Power analysis for a Wilcoxon signed-rank test was conducted in G*Power to determine a sufficient sample size using an alpha of 0.05, a power of 0.80, a small effect size (DZ = 0.2). The Mann-Whitney test was used to study the comparison between the 2 treatments.

Results

In this research, a total of 20 patients were cooperating. Participants were split into two groups (A and B). There were 10 participants in each group. Eighty-five percent of the respondents were males with 15% women.

With respect to the initiation of injury, the median onset of injury in the 2 groups was 2, 4 months. Group A's average weight was 80.8 kg, while group B's average weight was 80.5 kg. The information indicates that the average height in group A was 172.7 cm, and the average height in group B was 179 cm, respectively.

As for age, group A's average age was 30 years and group B's average age was 34 years. With regard to the Body Mass Index, group A's median BMI was 27.3 while group B was 25.5. T-test was used for autonomous samples to explore the distinction between the two groups. The outcomes are shown in the following table 1.

There are no important variations in demographic factors between the two groups that imply the two groups are identical and similar somehow. We can, therefore, use these two groups to carry out our research.

Calculations of effect size and Wilcoxon Signed Ranks Test were used to explore the impact of conventional treatment on the impacted piriformis muscle. The size of the impact discovered to be d = 1.48, very big size of the impact. We, therefore, conclude that the test's power exceeds 80%. This implies that a sample of 10 is sufficient to detect the treatment's impact.

In addition, the outcome of the in-group (A) test of Wilcoxon Signed Ranks indicates that the value of P is 0.011, which is less than p = 0.05. We conclude, therefore, that there is a statistically significant distinction between pain before treatment and pain after conventional therapy treatment. The findings disclosed that the average pain before therapy was 6.4 (2.75), while the pain decreased to 2.4 (2.11) after therapy. Therefore, we conclude that piriformis muscle pain is considerably reduced by conventional therapy treatment.

Variables	Group (A)	Group (B)	t- value	p-value
	Mean (SD)	Mean (SD)		
Age	29.7 (9.44)	33.8(11.5)	-0.871	0.395
Wight (Kg)	80.8 (11.6)	80.5 (11.4)	0.058	0.954
Height (Cm)	172.7 (7.64)	179 (9.94)	-1.588	0.130
BMI	27.3 (5.65)	25.2 (4.01)	0.960	0.350

Table 1: Comparison of demographic data of between groups.

BMI: Body Mass Index; W: Weight; H: Height; Data are presented as Mean (SD); significant difference = $p < 0.05$.

In group B, the same strategy as above was used to evaluate the impact on the impacted piriformis muscle of the dry needle method. The magnitude of the impact discovered to be d = 6.3 which is the very big size of the impact. We conclude, therefore, that the test's power is much greater than 80%. This implies a sample of 10 is more than enough to notice the effect on the impacted piriformis muscle of the dry needle method.

In addition, the outcome of the in-group (B) test of Wilcoxon Signed Ranks shows that the value of P is 0.004 which is less than p = 0.05. Therefore, after therapy with dry needle method, we conclude that there is a statistically significant distinction between pain before therapy and pain After therapy. After studying the means (averages) of pain, we found that the average pre-treatment pain was 7.6 (0.84), while the pain decreased to 0.9 (0.56) after treatment. We deduce, therefore, that the dry needle method considerably decreases piriformis muscle pain. These results are presented in table 2 and chart 1 below.

Mann-Whitney test was used for the pre-and post-results of the two medicines to examine between groups. In the pre-values, the test findings revealed that 0.247, which is higher than 0.05, was the P-value before the two medicines. We conclude, therefore, that prior to therapy there was no statistically significant distinction between pain in group A and group B. This implies that the two groups are very much the same.

Testing which therapy is the best result, though. The Mann-Whitney Test was implemented over the outcomes of the two medicines posted. The post-test P value was 0.052, which is slightly higher than 0.05. Therefore, we conclude that between the two medicines there is no statistically significant distinction. This also implies that

Group	Pre-treatment	Post-treatment	Effect Size	P value
	Mean ± SD	Mean ± SD		
A (Conventional)	6.4 ± 2.75	2.4 ± 2.11	1.48	0.011
B (Dry needle)	7.6± 0.84	0.9 ± 0.56	6.3	0.004

Table 2: Comparison between pre- and post VAS score within groups.

VAS: Visual Analog Scale; SD: Standard Deviation.

Chart 1: Average VAS pain before and after treatment within group.

both therapies have the same impact and likewise decrease pain. Nevertheless, the calculations of the effect size indicate that the dry needle has a greater impact on the muscle of piriformis impacted patients compared to conventional therapies. These results are illustrated in the following table 3.

The scientists used "(ODI)" to observe the impact of the two medicines. The questionnaire includes ten items linked to pain intensity, lifting, self-care capacity, walking capacity, sitting capacity, sexual function, standing capacity, social life, quality of sleep, and travel capacity. Each question is scored on a scale of 0-5 with the first declaration being zero, indicating the least quantity of impairment, and the last statement is scored 5, showing the most serious disability. The index (range 0 to 100), Zero is equated with no handicap and 100 is the highest possible handicap.

The effect size calculations and the Wilcoxon Signed Ranks Test were used to explore the results produced from the (ODI) within groups.

For group (A), the calculations of the effect size discovered that d = 1.00 is a big size of the impact. So we conclude that the test's power is about 80%. This implies that a sample of 10 is sufficient to identify the treatment impact (conventional therapy) on the functional disability.

Group	Pre- treatment	Post-treatment	Effect Size
	Mean ± SD	Mean ± SD	
A (Conventional)	6.4 ± 2.7	2.4 ± 2.11	1.48
B (dry needle)	7.6± 0.84	0.9 ± 0.56	6.3
P value	0.247	0.052	

Table 3: Comparison of pre and post - VAS score in between groups.

VAS: Visual Analog Scale; SD: Standard Deviation.

On the other hand, Wilcoxon Signed Ranks Test outcomes on the group (A) showed that the P-value is equivalent to 0.012 (i.e. less than 0.05) indicating a statistically important distinction between pre- and post-ODI scores. In group A, the average ODI score was 20.6 (Moderate Disability) prior to conventional treatment. While the ODI score dropped after therapy to 13.2 (Minimum Disability). We can then conclude that conventional treatment can considerably enhance function for sciatica patients.

Similarly, in the group (B) impact size calculations, d = 0.819 was discovered to be a big effect size as well. Therefore, we suppose that the test's power is around 80%. A sample of 10 is sufficient to notice the impact of dry needles on patients with sciatica.

In addition, for group B (dry needles), the Wilcoxon Signed Ranks Test P-value was 0.01, which is less than 0.05. Therefore, we deduce that the Oswestry Disability Index (ODI) has a statically important distinction between pre-and post-scores. Examining the average ODI score before and after therapy with the dry needle disclosed that the average ODI score in group B was 9.6 before therapy. The average dropped to 5.6 in the post measurements. This also implies that ODI results can be considerably reduced by dry needles. This also implies that dry needles can considerably enhance function for patients with sciatica. These outcomes are shown in the table 4 and chart 2 below.

Chart 2: Average ODI scores before and after the 2 treatment.

Group	Pre-treatment	Post-treatment	Effect Size	P value
	Mean ± SD	Mean ± SD		
A (Conventional)	20.6 ± 11.7	13.2 ± 10.59	1.00	0.012
B (Dry needle)	9.6 ± 5.71	5.6 ± 6.44	0.819	0.010

Table 4: Comparison of pre- and post- ODI scores within groups.

ODI: Oswestry Disability Index, SD: Standard Deviation.

The investigator used the Mann-Whitney Test to compare pre- and post-ODI ratings between groups. The test on the results for pre-treatment disclosed a P value of 0.023, which is below 0.05. Thus, we conclude that before therapy there is a statically important distinction in ODI results between the 2 groups. This means, however, that the two groups are not the same and cannot be compared.

The post-treatment scores exam, on the other hand, disclosed a P-value of 0.089. Which exceeds 0.05 and thus we infer that after therapy there is no statistically significant difference in ODI results between group A and group B. By looking at the calculations of the effect size, we can conclude that conventional treatment can enhance the function of sciatica patients more effectively than the method of the dry needle. These results are illustrated in the following table 5 and chart 3 below.

Group	Pre- treatment	Post-treatment	Effect Size
	Mean ± SD	Mean ± SD	
A (Conventional)	20.6 ± 11.7	13.2 ± 10.59	1.00
B (Dry needle)	9.6 ± 5.71	5.6 ± 6.44	0.819
P value	0.023	0.089	

Table 5: Comparison of pre- and post- ODI scores between groups.

ODI: Oswestry Disability Index; SD: Standard Deviation.

Chart 3: Average ODI scores before and after the two treatments.

"Anxiety (Hospital Anxiety and Depression Scale)" was used to study the consequences of the two anxiety therapies. The Hospital Anxiety and Depression Scale (HADS) is a 14-point metric intended to evaluate the symptoms of anxiety and depression in medical patients, with a focus on decreasing the overall score effect of physical disease. The results in each sub-scale (Anxiety, Depression) are calculated by summing the respective items for each sub-scale, with a maximum of 21. A score of 0 - 7 is regarded as ordinary, borderline case 8 - 10 and case 11 - 21 (anxiety or depression).

The effect size calculations and the Wilcoxon Signed Ranks Test was used to compare in-group A pre-and-post-HADS results, the effect size calculations produce a medium-effect size d = 0.693. We, therefore, conclude that the test's power is less than 80%. A sample of 10 is therefore not sufficient to identify the impact of standard anxiety treatment. Furthermore, the outcomes of the Wilcoxon Signed Ranks Test revealed a P-value equal to 0.049 (i.e. less than 0.05).

In addition, the Wilcoxon Signed Ranks Test results disclosed a P-value of 0.049. (I.e. below 0.05). This implies that the distinction between pre-and post-values is statistically important. In group A, the pre-average HADS score was 5.9. Following conventional treatment, this average dropped to 3.4. We can, therefore, conclude that conventional therapy considerably reduces anxiety.

In group B, the calculation of the impact magnitude produces a d = 0.652 which is a size of the medium impact. We, therefore, conclude that the test's power is less than 80%. A sample of 10 is not sufficient to identify the impact on the anxiety of the dry needle method.

The Wilcoxon Signed Ranks Test results also disclosed a 0.068 P-value. This implies that under the dry needle therapy there is no statistically significant distinction between pre- and post- values. The pre- average HADS in-group B was 0.1 this average increased to 2.4 after the dry needle treatment. So, we can conclude that the dry needle treatment has no significant effect on anxiety. The table 6 and chart 4 below depicts these findings.

Group	Pre-treatment	Post-treatment	Effect Size	P value
	Mean ± SD	Mean ± SD		
A (Conventional)	5.9 ± 4.7	3.4 ± 4.2	0.693	0.049
B (Dry needle)	0.1 ± 0.3	2.4 ± 3.5	0.652	0.068

Table 6: Comparison of pre- and post- anxiety test within groups.

HADS: Hospital Anxiety and Depression Scale,
SD: Standard Deviation.

Chart 4: Average HADS scores before and after the 2 treatment.

Mann-Whitney test was used to compare the ratings of pre-and-post-HADS anxiety between groups. The pre-treatment scores test disclosed a P value of 0.002, below 0.05. We conclude that before therapy there is a statically important distinction in HADS results between the two groups. In addition, this implies that in this aspect it is hard to compare the two groups. Similarly, the post-therapy scores test disclosed a P-value of 0.52. This value is higher than 0.05, and therefore we infer that after therapy there is no statistically significant distinction in HADS anxiety scores between group A and group B. However because the pre-scores are not similar, this outcome does not imply much. These findings are shown in table 7 below.

Group	Pre- treatment	Post-treatment	Effect size
	Mean ± SD	Mean ± SD	
A (Conventional)	5.9 ± 4.7	3.4 ± 4.2	0.693
B (Dry needle)	0.1 ± 0.3	2.4 ± 3.5	0.652
P value	0.002	0.52	

Table 7: Comparison of pre- and post- anxiety test between groups.

HADS: Hospital Anxiety and Depression Scale; SD: Standard Deviation.

Discussion

Sciatica is a pain syndrome that radiates from the L4-S3 nerve roots through the hip and back of the thigh and arm to the bottom of the foot and maybe primary or secondary [16]. Sciatica or radicular lumbosacral syndrome is characterized by pain that radiates into the leg along one of the lumbar nerve roots [17].

In our results, the onset of injury was 2.4 months in two groups, the average age range in group A was 30 years, whereas in group B it was 34 years, above which the male rate was 85%, otherwise the female rate was 15%, so there are no significant variations in population factors between the two groups and then, the two treatments have the same impact for decreasing pain. Nevertheless, the effect size suggested that the dry needle would have a higher impact on patients with piriformis muscle compared to conventional treatments.

In the therapy of myofascial pain syndrome, Seyed Mansoor Rayegani and his friends reported the comparison of dry needling and physiotherapy. Muscular tight bands were examined to identify trigger points, and needling was obtained in the most painful region, which triggered referral pain in a familiar pattern. A doctor conducted the needling method of trigger points. They used 23-gauge syringe needle for needling. Both PT and dry needling techniques were efficient in treating upper trapezius myofascial pain syndrome. However, given the time and cost, it is preferred to dry needling. Because this research is the first study to compare these two techniques and the elevated incidence of this syndrome [18]. This research was in line with our results.

Ashraf Mahmoud Zadeh and his friends reported the impact of dry needling on radiating pain in individuals with low-back discogenic pain, a randomized control trial. As a document, the variety of patient ages suffering from radiant pain in one or two legs is between 20 - 50, resulting in the clinical trial suggesting that both intervention techniques (Standard physical therapy) and (Standard physical therapy and DN), considerably lowered pain and enhanced disability instantly after the intervention, while the improvement remained within 2 months of the last active intervention [19]. This study was consistent with our findings.

On the other side, the post-treatment score examinations revealed a P value of 0.089 for function comparison. Which exceeds 0.05 and so we infer that there is no statistically significant difference between group A and group B in ODI outcomes after treatment. By looking at the calculations of the effect size, we can conclude that conventional therapy can improve the function of sciatica patients more efficiently.

Manisha Uttam and Harshita Yadav revealed that dry needling's efficacy in acute piriformis syndrome when releasing myofascial trigger points. The age range of male patients with left buttock pain is 27 years old as a publication, The findings of this case study indicated that single session of dry needles with gentle stretching and wet hot pack had been shown to be efficient in releasing myofascial trigger by decreasing pain and enhancing ROM in patients with acute PS [20]. Our results were compatible with this research.

The impact of stress stretching versus lumbar mobilization with a workout in topics with non-radicular low back pain was noted by Amit Vinayak Nagrale and his colleagues. The range of patient ages with non-radicular low back pain ranged from 18 to 60 years, The findings of this research were in NRLBP patients who demonstrated a favorable slump test on examination, slump stretching in

a clinical and home workout program along with lumbar spine mobilization and stability exercises appear to be more useful for the rate and magnitude of self-reported disability recovery; Pain and fear-avoidance compared to slump-free therapy [21].

It was revealed by Kyndall L Boyle and d Jennifer Rask Demske, managing a woman with chronic sciatica and low back pain. The age of the patient suffering from chronic sciatica and low back pain is 61 years old woman. For patients with chronic right sciatica and LBP, particular unilateral exercises targeting tri-planar muscle activation may be more useful than bilateral exercises targeting sagittal plane flexion mobility and overall trunk/pelvic stability. This case study also proposed that the exercises prescribed for particular muscle activation and muscle inhibition, as measured by the ODI, eliminated the right sciatic and LBP and enhanced function from moderate (40%) to no impairment (0%). Both pain and function result measures surpassed MCSD [22]. With this research, our results were consistent.

By comparing the outcomes between people of pre-and-post-HADS anxiety. The test results for pre-treatment revealed a P value of 0.002, below 0.05. We conclude that there is a statically significant difference between the two groups in the outcomes of HADS before treatment. Moreover, this means that the two groups are difficult to compare in this aspect. Similarly, a P value of 0.52 was revealed by the post-therapy scores test. This value is greater than 0.05, so we deduce that there is no statistically significant difference between group A and group B in HADS anxiety results after the treatment.

Aridici R and his colleagues reported that, when comparing the effectiveness of dry needling and high-power pain threshold ultrasound therapy with clinical status and sonoelastography in myofascial pain syndrome, the age range of patients with myofascial pain syndrome was between 18 - 60 years (53 females and 8 males), Results showed that HPPT and DN should be effective techniques to alleviate pain and disability, increase ROM, decrease depression, and improve quality of life. Although HPPT showed a significant reduction in tissue stiffness, none of the approaches were superior to the other. However, in reducing anxiety, HPPT is more effective than DN [23]. This research agreed with conventional anxiety reduction therapy, otherwise the dry needling conflicts.

Dry needles are more efficient than conventional pain reduction treatment, conventional treatment in ODI can enhance sciatic function more than dry needles, the sample is not sufficient in anxiety to detect the impact of conventional treatment.

Our strengths were the availability of more time to receive fresh patients, we agreed to visit the university's physiotherapy center with the patients within a week, and luckily many of them were examined. The point we favored was that we were in the team experts (male and female) and we were lucky to be dealing with both sexes. Furthermore, our weaknesses were few, including the withdrawal of some patients for private reasons and the need to receive fresh patients, leading to the addition of another week of sessions, the lack of engagement to meet some patient's times.

Conclusion

We found dry needling treatment in sciatic patients is more efficient than conventional treatment in decreasing pain. Furthermore, we found that conventional treatment could enhance more than dry needling function in patients with sciatica, and lastly there was no important distinction between both anxiety medicines.

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