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Effect of Transcutaneous Electrical Nerve Stimulation on Symphysis Pubis Dysfunction During Pregnancy

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Abstract

Background: Symphysis pubis dysfunction (SPD) is a painful and debilitating condition that mostly happens during pregnancy. It has a negative impact on quality of life that can lead to severe complications such as depression. Transcutaneous electrical nerve stimulation (TENS) is a marvelous intervention that can relieve pain efficiently and faster than any other physical therapy modalities, so it can give better quality of life for patient that has (SPD). TENS doesn't hurt, it is safe, painless, non-invasive and it has no side effects like medications. It enables the patient with SPD to have pain free in a very short time. TENS closes pain gait so, pain signals can't reach to conscious level in the brain so pain is relieved. Additionally, it stimulates-release of opiate substances, endorphins and enkephalins which are the natural pain killers so, pain is relieved.

Aim of Study: This study was conducted to investigate the effect of TENS on symphysis pubis dysfunction during pregnancy.

Patients and Methods: This study was carried out on forty primiparous pregnant women suffering from symphysis pubis dysfunction. They were selected randomly from the outpatient clinic of Obstetrics and Gynecology at the Military Hospital. Their ages were ranged from (25-35) years old, their body mass index didn't exceed 30kg/m^2. All patients were divided randomly into 2 groups equal in number, study group (A) & Control group (B). Study group (A) This group was consisted of 20 patients. Each patient in this group had received transcutaneous electrical nerve stimulation on her symphysis pubis joint for 30 minutes, 3 times/week for 4 weeks. Also, each patient in this group was asked to perform strengthening exercises for abdominal & pelvic Floor muscles, posture correction and posterior pelvic tilting exercisers for 30 minutes, 3 times / week for 4 weeks. Additionally, to this, each patient was asked to wear a pelvic brace all day except during sleep or taking a shower throughout the treatment course. While Control group (group B): This group was consisted of 20 patients Each Patient in this group was asked to perform strengthening exercises for abdominal & pelvic Floor muscles, posture corrections and posterior pelvic tilting exercises For 30 minutes, 3 times/week for 4 weeks as in group (A). Also, each patient was advised to wear pelvic brace all day except during sleep or taking a shower throughout the treatment course. Symphyseal pain was evaluated by Visual analogue scale (VAS) and measuring blood cortisol level in blood plasma before and after treatment.

Results: The result of this study revealed that, both groups (A) & (B) showed statically (*p*-value <0.001) significant decrease in VAS scores and decrease in serum cortisol level in blood plasma after treatment, but the percent of decrease in VAS scores and decrease in serum cortisol level in blood plasma was more pronounced and more noticeable in study group (group A) when compared with control group (group B).

Conclusion: It was concluded that, Transcutaneous electrical nerve stimulation (TENS) is an effective physical therapy modality for relieve pain in symphysis pubis dysfunction during pregnancy.

Key Words: *Symphysis pubis dysfunction – TENS – Visual analogue scale and cortisol level in blood plasma.*

Introduction

SYMPHYSIS pubis dysfunction is a painful and debilitating condition that mostly happens during and after pregnancy. Symphysis pubis dysfunction can have a significant impact on quality of life which can lead to severe complications such as depression **[1]**.

The pregnant women are most likely to feel pain and discomfort from their symphysis pubis joint that make simple day-to-day things are too hard to do. This pain can be described as symphysis pubis dysfunction [SPD] or pelvic girdle pain or symphysis pubis pain syndrome **[2]**.

Symphysis Pubis dysfunction isn't medically harmful to the baby but, it could be extremely painful for the mother. In some cases, this pain may be so severe, so it affects the mother's mobility and makes the daily tasks such as getting in and out of bed, getting dressed or getting in and out of a car

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so difficult. Also, this severe pain may lead to sadness or even depression which sometimes thought to negatively affect the baby. However, most of the women with this condition are still able to deliver vaginally *[3]*.

The symphysis pubis joint is normally very stiff and doesn't move much at all. But, during pregnancy, the pregnancy hormones, especially relaxin hormone is released in the mother's body to loosen pelvic ligaments and weaken the muscles of the hips, pelvic floor and abdomen. This loosening or slacking is intended to increase the space or gap between the two pubic bones, so, the pelvis can widen for vaginal delivery. But it also means that, the pelvic joints especially symphysis pubis joint becomes more mobile and unstable. This hypermobility can cause severe pain and discomfort at the joint itself, which is known as symphysis pubis dysfunction *[4]*.

Symphysis pubis dysfunction happens when the ligaments that normally keep the alignment of the two pubic bones during pregnancy become too relaxed, more flexible, Loosened and stretched due to the effect of pregnancy hormones especially relaxin hormone. This in turn, can make the symphysis pubis joint moving too much and unstable, causing some pretty strange sensation including pelvic pain *[5]*.

Other factors are contributing to symphysis pubic dysfunction during pregnancy or they are risk factors for SPD, they include: Physically strenuous work during pregnancy, poor posture, lack of exercises, weight gain, multiple Fetuses which can put pressure on the symphysis pubis joint making it hurt more, increased maternal age, history of difficult deliveries such as dystocia which may also play a role and the weight of the Fetus and its position *[6]*.

This pain is felt over the pubic area, usually on the joint at the front of the pelvis and the joint becomes very tender to touch due to inflammation and swelling *[7]*.

The pain of symphysis pubis can travel and radiate in other areas of the body such as perineum, lower abdomen, lower back, groin, Hips and upper thighs. Also, this pain is aggravated as pregnancy progresses and resolves on its own after the baby is born. On examination, there is widening or a palpable inter pubic gab is found and the Patient may walk with a characteristic Side-to-side gait *[8]*.

Symphysis pubis dysfunction is very common during pregnancy. It affects approximately 30% of the pregnant women, furthermore about 75% of women develop SPD in the first trimester, while 89% of women develop SPD of pregnancy in the second and third trimester *[9]*.

The most common symptoms of SPD during pregnancy include: Severe pain and tenderness focused on the pubic area. The patient usually describes the pain as burning, shooting, grinding or stabbing pain *[10]*.

The pain of symphysis pubis dysfunction is usually relieved by rest and worsens with specific positions and weight bearing activities such as walking, bending forward, going up & down stairs, standing or sitting for a long time, getting in & out of a car, standing on one leg, lifting one leg, getting up from a seated position, turning over, rolling over in bed, getting out of the bed, dressing, difficulty in some movements like abduction & adduction and turning around. Also, there is persistent pain in lower back, groin, lower abdomen, perineum and upper thighs *[11]*.

Additionally, to this, the mother hears a clicking or grinding sound in her pelvis during walking and changing positions. There are sleep disturbances due to pain and in severe cases, SPD can also cause dyspareunia and problems in urination or defecation. However, this pain disappears completely when the baby is born *[12]*.

There are many options to treat symphysis pubis dysfunction during pregnancy, including medical treatment, home remedies and physical therapy treatment *[13]*.

In severe cases the gynecologist may describe pain relief medications in the form of nonsteroidal anti-inflammatory drugs [NSAIDs] to relief pain. The mother can applying ice packs or hot packs over her pubic bone to relieve pain, reduce inflammation & swelling and ease pain. Physical therapy treatment is a good option to manage SPD during pregnancy. The aim of physiotherapy is to relieve pain & ease discomfort, improve muscle function and improve pelvic joint stability *[14]*.

In fact, there are several physical therapy modalities that can be used to treat symphysis pubis dysfunction during pregnancy such as: TENS, Acupuncture, Hot & Cold therapies, Kinesio taping, Acupressure, Pelvic brace, Exercises and Lifestyle modifications *[15]*.

Take a rest in bed, using pelvic brace to help pelvic bones to get back into place, performing strengthening exercises for abdominal and pelvic

floor muscles to improve muscle function, doing posture correction & pelvic tilting exercises to correct posture and regain pelvis to its neutral position and using TENS unit to relieve pain **[16].**

Transcutaneous electrical nerve stimulation (TENS) is a non-invasive, inexpensive, self-administered technique to relieve pain. The clinical experience and systemic reviews suggest that TENS can be used as a successful modality to relieve acute and chronic pain. TENS uses an electric current to activate nerves in the painful area to decrease pain. TENS achieves rapid pain relief, and the maximal analgesia occurs when TENS generates a strong, but non-painful electrical paresthesia beneath the electrodes **[17].**

TENS is a marvelous intervention to relieve pain in so many musculoskeletal pathological conditions. It has a beneficial effect in treating SPD during pregnancy, acute & chronic back pain, sciatic pain, neck & shoulder pain, carpal tunnel syndrome, coccydynia, sacro-iliac joint pain, pelvic girdle pain, primary dysmenorrhea, De quervain's tenosynovitis, fibromyalgia, osteoarthritis, tennis elbow, bursitis, Capsulitis, tenosynovitis and planter fasciitis. Moreover, all results of the experimental studies were amazing **[18].**

TENS depends on pain gate theory to relieve pain. When the device is switched on, it sends electrical impulses through its electrodes that are placed on the painful area and activates the large myelinated afferent neve Fibers [A-beta Fibers] that carry touch sensation. Once A-beta fibers are activated, they stimulate Substantia gelatinosa of Rolandi in posterior horn cell which in turn inhibits T-cells, so pain impulses which are carried by C and A-delta fibers can't reach to conscious level in the brain, therefore pain is relieved. Also, electrical impulses stimulate the release of endorphins and enkephalins which are natural pain killer substances so pain is relieved **[19].**

Material and Methods

This study was carried out on forty primiparous pregnant women suffering from symphysis pubis pain. They were selected randomly from the Outpatient Clinic of Obstetrics and Gynecology at the Military Hospital. This study had lasted 12 months from June 2023 to June 2024. Their ages were ranged from (25-35) years old, their body mass index didn't exceed 30kg/m^2. All patients were divided randomly into 2 groups equal in number, study group (A) & Control group (B).

Table (1): It illustrate Demographic characteristics of all patients in both groups (A&B).

	Group A (n=20)	Group B (n=20)	*t*-value	*p*-value
Age (yrs.)	25.90±2.34	25.65±2.83	0.304	0.762 (NS)
Weight (kg.)	84.18±4.43	83.55±4.68	0.434	0.667 (NS)
Height (cm)	168.70±4.32	168.05±4.35	0.474	0.638 (NS)
BMI (kg/m^2)	29.57±0.55	29.56±0.57	0.001	0.999 (NS)

Data are expressed as mean ± SD. NS = p>0.05 = Not significant.

Material:

A- Informed consent Form: Each patient in both groups (A&B) was asked to Sign on the Consent Form before Starting the treatment Course.

B- Recording data sheet: It was used to record all data of each patient in both groups (A&B) in it before starting the treatment Course. It included name, age, address, occupation, diagnosis, chief complaint, past & present history, obstetric history and family history.

C- Weight - Height scale: It was used to measure weight and height of each Patient in both groups (A&B) before starting the treatment Course to calculate body mass index through this equation: BMI = Body weight (Kg)/square of body heights (m)^2.

D- TENS device: This device was used to treat all patients in group (A).

E- Visual Analogue Scale (VAS): It is a graphic rating scale with numerical values ranged from (0-4), placed equidistantly on a line of 10cm long drawn horizontally. The description and numbers help the patient to describe her level of pain.

(0) Represents no pain.
(1) Represents mild pain.
(2) Represents moderate pain.
(3) Represents severe pain.
(4) Represents intolerable pain.

F- Syringes: They were used to withdrawn blood samples from each patient in both groups (A&B) before and after treatment course in the early morning to measure cortisol level in blood plasma. About 3cm of blood was withdrawn from the antecubital vein in the early morning from each patient in groups (A&B) pre and after treatment and they were sent immediately to laboratory centre to analysis.

G- Pelvic brace: It was used by each patient in both groups (A&B) to worn during treatment course.

H- Mirror: It was used by each patient in both groups (A&B) to perform posture correction exercises in Front of the mirror.

I- Stopwatch: It was used to determine time of each treatment Session.

J- Plinth, sheets, towels and armchair.

K- A bottle of alcohol and cotton.

Evaluating procedures:

It was done through:

1- Each patient in both groups (A&B) was asked to put a mark on Visual analogue scale (VAS) to estimate intensity of her pain. This was done before and after the treatment Course.

2- A blood sample of 3cm was withdrawn in the early morning from the antecubital vein of each patient in both groups (A&B) before and after the treatment course and it was sent immediately to the laboratory center to measure the cortisol level in blood plasma.

Treatment procedures:

Study group (A):

Each patient was asked to lie on the plinth, in supine lying position. Then she was covered with a white sheet except the treated area (the pubic area). The physiotherapist cleaned the skin over the pubic area with a piece of cotton immersed in alcohol to decrease skin resistance. Then the two surface electrodes of TENS device were placed over the pubic area and the TENS unit was adjusted on the following parameters: Frequency: 80-120 Hz, Pulse width: 200 US. Then it was switched on and the intensitywas adjusted according to the patient tolerance and duration was 30 minutes then the device was switched off and the two surface electrodes were removed. At the end, the patient was asked to perform strengthening exercises for abdominal & pelvic Floor muscles, posture correction and posterior pelvic tilting exercises for 30 minutes. This procedure was repeated 3 times/week for 4 weeks. Additionally to this, each patient was asked to wear pelvic brace all day except during sleep and taking a shower throughout the treatment course.

The exercise program included:

1- *Strengthening exercises for abdominal muscles:*

• *Static abdominal exercise:* From crock lying position the mother was asked to lie comfortably on her back with her knees bent and the therapist standing beside the mother, his inner hand was under the lumber region of the mother while his outer hand was above the abdomen at the level of the waistline to guide the movement. The mother was asked to contract her abdominal muscles and press her back firmly onto the bed. Hold this position for five counts then relax.

• *Dynamic abdominal exercises:* It included several shapes and each shape had several positions as a progress. And it is as follows: Lateral flexion of the pelvis (Hip shrugging), lateral flexion of the trunk, pelvic rotation exercises, trunk rotation exercises and the antero-posterior flexion of the trunk (curl-up.

- *Lateral flexion of the pelvis:* The mother was asked to do this exercises from several positions. Such as half crock lying position, Stride standing position, sitting on out stretched hands and half prone kneeling position. In every position the mother was asked to contract her abdominal muscles firmly, then draw the straight leg up towards the ribs to seem shorter, Hold there for five counts, then push it down to seem longer, return to the starting position and relax. After that, the mother was asked to repeat the same exercise to the other side and relax.

- *Lateral flexion o the trunk:* The mother was asked to do this exercises from several positions. Such as crock lying, supine lying, sitting, stride standing, prone kneeling and side lying position.. In every position the mother was asked toto pull her abdomen in firmly. Then bend side ways to the side without allowing her body to lean forward or back ward and stretch her hand toward her foot as much as she can. Hold there for five counts, then straighten up slowly and return to the upright position. After that, the mother was asked to repeat the same exercise to the left side and relax.

- *Pelvic rotation exercises:* The mother was asked to do this exercises from two positions. Such as crock lying position and half crock lying. The mother was asked to pull her abdomen in firmly, and press her shoulders down hard on the table, then roll her knees slowly to the rightside until her thigh touches the table. Hold this position for five counts, then bring her knees up to the middle and relax. After that, the mother was asked to repeat the same movement to the left side and relax.

- *Trunk rotation exercises:* The mother was asked to do this exercises from several positions. Such as, sitting on a stool, stride standing, creeping and from crock lying position. In every position the mother was asked topull her abdomen in firmly, then rotate her upper trunk to the right side as far as she can, let her head follows the movement and her

eyes looking behind her shoulder, while her knees & hips remain facing forward to avoid twisting the knees. Hold in this position for five counts then return to the middle and relax. After that. The mother was asked to rotate her upper trunk to the left side and relax.

- *The antero-posterior flexion of the trunk (curl-up):* The mother was asked to do this exercises from several positions. Such as, Crock lying position, Supine with crossed her hands on her chest and supine with clasp her hands behind her head. In every position the mother was asked topull her abdomen in firmly, the mother was asked to try tocome to sit up position and then relax.

2- Strengthening exercises for pelvic floor muscles:

This exercises was had a three steps:

- *First step (for Pupo-vaginalis):* From a crock lying position, with only one layer of clothes on the lower abdomen to allow clear observation for lowering of lower abdomen. Thighs are slightly apart from each other to avoid substitution by hip adductors. The mother was asked to contract her as if she controls the urethral orifice action, hold then relax. This step was repeated several times.

- *Second step (for pubo-rectalis):* The mother was asking to lie in a crock lying position. The therapist was standing beside her and his both hands under the gluti with tips of the fingers around the anus to feel the contraction of the muscle (drawing anus up), then the therapist asked the mother to contract as if she controls the bowel action, concentrate in this action, hold then relax. This exercise was repeated several times and any contraction in the glutei was avoided during this exercise.

- *3rd step (for the whole muscle):* The mother was asked to lie in crock lying position with only one stretched layer of clothes on the lower abdomen and thighs were slightly apart to avoid substitution by the hip adductors. The therapist was stride standing beside the mother at the level of her pelvis, his both hands under glutei with the tips of his fingers around the anus. While the therapist eyes were concentrated on the lower abdomen of the mother to observe the contraction of the pubo-vaginalis muscles. The therapist asked the mother to contract as if she controls the bowel action, the urethral orifice action and draw her vagina up, concentrate in this action, hold then relax.

3- Posterior pelvic tilting exercises:

The mother was asked to perform this exercise from different positions such as: Crock lying, supine lying, standing against the wall and from prone kneeling position.

- *From supine and Crock lying:* The mother was asked to tighten the buttock muscles and simultaneously draw in the abdominal muscles then press her back firmly down on to the bed. Hold this position for five counts then gently relax both groups of muscles.

- *From standing against the wall:* The mother was asked to put her thumbs on the anterior superior iliac spines and other fingers around her pelvis then tighten the buttock muscles, draw in the abdominal muscles and press her back against the wall. Hold in this position for five counts then gently relax both groups of muscles.

- *From prone kneeling position:* The mother was asked to tighten the buttock muscles, draw in the abdominal muscles and try to make her back like a hump. Hold in this position for five counts then gently relax and return to the starting position.

- *From standing in mirror:* The mother was asked to keep her eyes looking forward, head & trunk straight, shoulders in the optimum position, then chin in, take deep breath from her nose and open her chest, contract abdominal muscles, contract glutei, draw her knees backward and feel that her body weight is transmitted from the knees to the lateral border of the feet then to the balls of the big toes. Hold in this position for five counts then relax.

Control group (B):

This group was consisted of 20 patients. Each patient in this group was asked to perform strengthening exercises for abdominal & pelvic floor muscles, posture correction and posterior pelvic tilting exercises for 30 minutes, 3 times per week for 4 weeks as in group (A). Also, each patient was asked to wear a pelvic brace all day except during sleep or took a shower throughout the treatment course.

Results

By comparing the two groups (A & B) after treatment regarding o VAS scores, it was found that, both groups showed a decrease in pain score after treatment, group (A) achieved 70.13% while group (B) achieved 16.67% but the percentage of decrease in VAS scores was more pronounced and more noticeable in group (A) when compared with group (B), this means that transcutaneous electrical nerve stimulation was effective modality to decrease in pain of symphysis pubis dysfunction during pregnancy.

Table (2) and Figs. (1-3): Illustrate mean ± SD for VAS scores before and after treatment for both groups (A & B).

Variables	Group A		Group B	
	Before treatment	After treatment	Before treatment	After treatment
Mean ± SD	3.85±0.37	1.15±0.81	3.90±0.31	3.25±0.64
MD	2.70		0.65	
t# value	15.069		5.940	
p-value	0.001		0.001	
% of ↓↓in VAS scores	70.13%		16.67%	
Significance	Highly significant		Highly significant	

MD = Mean difference.

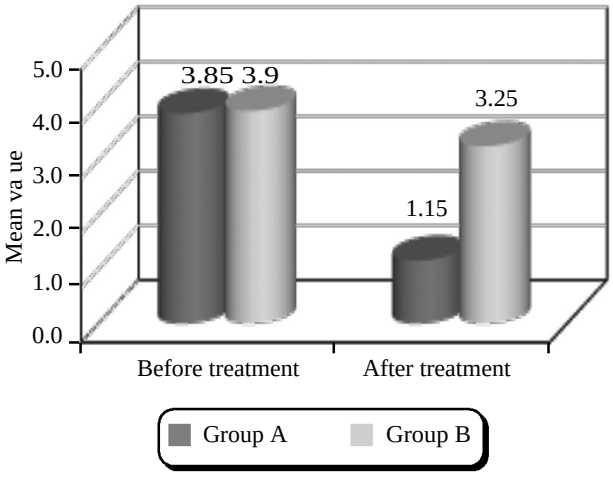

Fig. (1): Illustrates mean values of VAS Scores measured before and after treatment in the two studied groups (A&B).

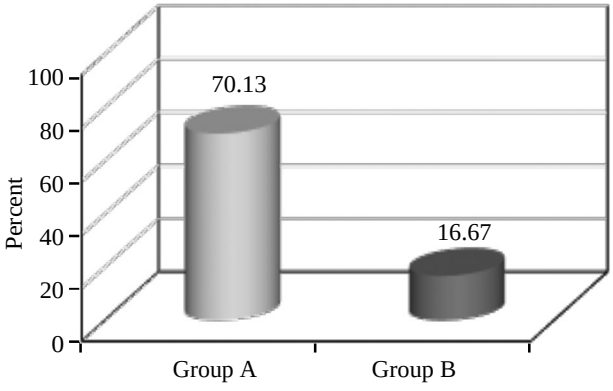

Fig. (2): Illustrates percent of decrease in VAS scores in both groups (A & B) after treatment.

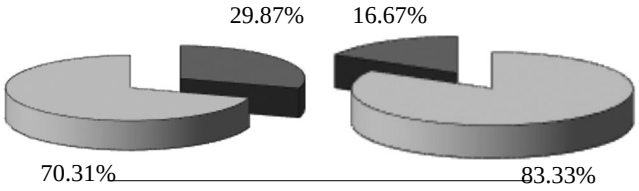

Fig. (3): Illustrates percent of decrease in VAS scores after treatment in both groups (A & B).

Table (3) and Figs. (4-6): Illustrate mean ± SD for serum cortisol level in blood before and after treatment for both groups (A & B).

Variables	Group A		Group B	
	Before treatment	After treatment	Before treatment	After treatment
Mean ± SD	20.75±2.18	8.71±2.33	21.53±1.90	17.99±1.93
MD	12.04		3.54	
t# value	25.489		8.688	
p-value	0.001		0.001	
% of ↓↓in serum cortisol level	58.02%		16.44%	
Significance	Highly significant		Highly significant	

MD = Mean difference.

By comparing the two groups (A & B) after treatment regarding to serum cortisol level, it was found that, both groups showed a decrease in serum cortisol level after treatment, group (A) achieved 58.02% while group (B) achieved 16.44% but the percentage of decrease in serum cortisol level was more pronounced and more notice able in group (A) when compared with group (B), this means that-transcutaneous electrical nerve stimulation was effective modality in decreasing serum cortisol level on blood and decrease pain of symphysis pubis dysfunction during pregnancy.

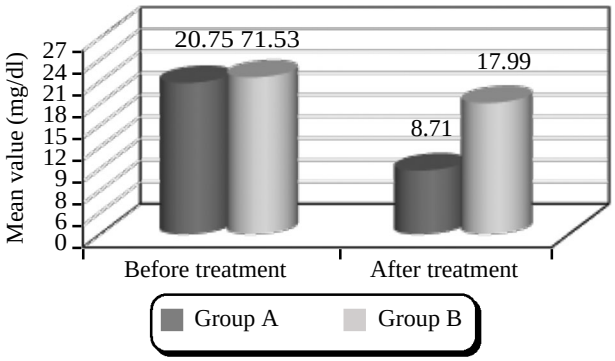

Fig. (4): Illustrates mean values of serum cortisol level in blood measured before and after treatment in the two studied groups (A & B).

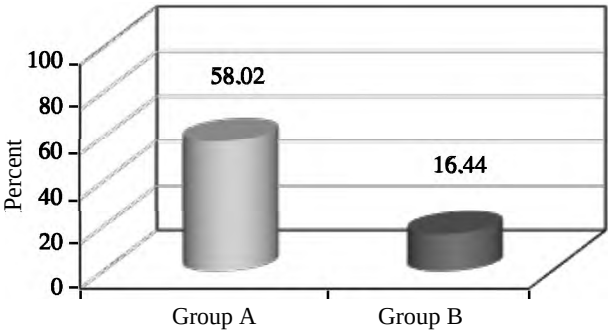

Fig. (5): Illustrates percent of decrease in serum cortisol level in both groups (A & B) after treatment.

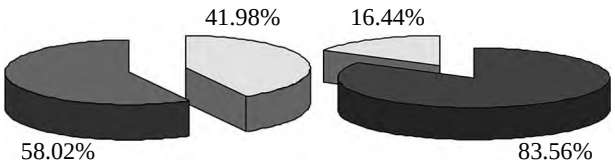

Fig. (6): Illustrates percent of decrease in serum cortisol level after treatment in both groups (A & B).

Discussion

Several studies have investigated the effects of physical therapy interventions on symphysis pubis dysfunction during pregnancy. For example, Smith et al., *[20]* reported that, TENS is a marvelous intervention to relieve pain in so many musculoskeletal pathological conditions. It has a beneficial effect in treating SPD during pregnancy, acute & chronic back pain, sciatic pain, neck & shoulder pain, carpal tunnel syndrome, Coccydynia, Sacro-iliac joint pain, Pelvic girdle pain, primary dysmenorrhea, De quervain's tenosynovitis, fibromyalgia, osteoarthritis, tennis elbow, bursitis, capsulitis, tenosynovitis and planter fasciitis. Moreover, all results of the experimental studies were amazing.

Recent studies by Brown et al., *[21]* and Garcia et al., *[22]* had explored the effect of TENS on symphysis pubis dysfunction during pregnancy. Brown et al., reported that, TENS achieved a significant reduction in pain sensation in the pubic area and an improvements in mobility among pregnant women with SPD. Similarly, Garcia et al., found that "TENS was associated with decreased pain severity and improved quality of life in pregnant women with symphysis pubis dysfunction". This agrees with the results of the present study.

Similarly, Williams et al., *[23]* found that TENS was associated with decreased pain severity and improved quality of life in pregnant women with symphysis pubis dysfunction.

Walker et al., *[24]* had conducted an experimental study to investigate the effect of transcutaneous electrical nerve stimulation on SPD during pregnancy. The results of his study showed that, TENS unit achieved a marked decrease in VAS scores and a statistically significant decrease in cortisol level in blood plasma after treatment. He explained the results of his study saying that, "TENS is a marvellous intervention to relieve pain. It has a beneficial effect in treating SPD during pregnancy. TENS unit works by sending electrical currents that travel through electrodes and into the skin. This stimulates the specific nerve pathways to produce a tingling sensation and activates a complex neural network to relieve pain. Also, TENS unit can help to reduce inflammation & swelling. It increases circulation and it has a deep massage effect in the treated area so it relaxes spasmed muscles and it enhances tissues healing. TENS unit not only relieves pain of SPD during pregnancy, but also it helps pregnant mother to get back to a better quality of life". This comes in consent with the results of the current study.

Also, Jasten et al., *[25]* conducted a randomized controlled trial to evaluate the efficacy of pelvic support belts in reducing pain and disability associated with symphysis pubis dysfunction. They found that pelvic support belts significantly improved pain and functional outcomes compared to standard care.

Johansson et al., *[26]* stated that "TENS and pelvic brace are commonly used as the primary option to treat SPD during pregnancy. Pelvic belt is a tool to correct pelvic misalignment in addition to reduce joint pain. Pelvic belt helps to stabilize pubic joint and it is the key to support the pelvic bones, holding them firmly in their place. Also TENS closes pain gait and stimulating therelease of endorphins and enkephalins which are natural pain killer substancesso, pain is relieved". This comes in agreement with the results of the present study.

Overall, TENS appears to be a promising non-pharmacological intervention for symphysis pubis dysfunction during pregnancy.

Conclusion:

Transcutaneous electrical nerve stimulation (TENS) is an effective physical therapy modality for relieve pain in symphysis pubis dysfunction during pregnancy.

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تاثير التنبية العصبى الكهربائى عبر الجلد على اختلال الاداء الوظيفى للارتفاق العانى اثناء الحمل

تهدف هذة الدراسة إلى معرفة تاثير جهاز التنبية الكهربى على آلام واختلال الاداء الوظيفى للارتفاق العانى وذلك اثناء الحمل.

أجريت هذة الدراسة على اربعين امرأه تم اختيارهم عشوائيا من العيادات الخارجية قسم النسا والولاده فى المستشفى العسكرى يعانون من اختلال الاداء الوظيفى للارتفاق العانى اثناء الحمل تراوحت اعمارهم ما بين ٢٥ إلى ٣٥ عاماً، لم يتعدى مؤشر كتلة الجسم عن ٣٠ كجم/ م وتم توزيعهم عشوائياً إلى مجموعتين متساويتين :

المجموعة (أ): اشتملت هذة المجموعة على عشرين مريضة تلقين العلاج عن طريق وضع جهاز التنبيه الكهربي على منطقة ارتفاق العانة ٣٠ دقيقة ٣ مرات اسبوعيا وذلك لمدة ٤ اسابيع، بالاضافة إلى عمل تمارين تقوية لعضلات البطن والحوض وتمارين تصحيح الوضع وتمارين العضلة الداخلية لاسفل الحوض وذلك لمدة ٣٠ دقيقة لمدة ٤ اسابيع. ونطلب من كل فرد فى هذة المجموعة بارتداء حزام الحوض طول الوقت ما عدا اثناء النوم او الاستحمام.

المجموعة (ب): اشتملت هذة المجموعة علي عشرين مريضة تلقين العلاج عن طريق الي عمل تمارين تقوية لعضلات البطن والحوض وتمارين تصحيح الوضع وتمارين العضلة الداخلية لاسفل الحوض وذلك لمدة ٣٠ دقيقة لمدة ٤ اسابيع . وطلب من كل فرد في هذة المجموعة بارتداء حزام الحوض طول الوقت ما عدا اثناء النوم او الاستحمام

طرق التقييم : – اختبار مقياس النظر البصرى – قياس مستوى الكورتيزون فى بلازما الدم.

نتائج البحث: وقد اظهرت نتائج البحث وجود فارق ذو دلالة احصائية فى كل من المجموعتين بعد العلاج وبمقارنة نتائج المجموعتين وجد التالى :

– وجود نقص ذو دلالة احصائية فى المؤشر البصرى للالم لصالح المجموعة (أ).

– وجود زيادة ذو دلالة احصائية فى مستوى الكورتيزون فى الدم لصالح المجموعة (ا).

الاستنتاج: نستخلص من نتائج البحث ان التنبيه الكهربى له فاعلية فى تحسن الألم و الاداء الوظيفى للسيدات اللاتى يعانين من اختلال الاداء الوظيفى للارتفاق العاني اثناء الحمل.