International Journal of Psychosocial Rehabilitation ISSN:1475-7192
Volume 24 , Issue 2 , 2020

Effectiveness of the therapeutic program of ilioposoas and its effect on pelvic and lumbar stability

D. Hossam Darwish Ahmed [1]

Abstract

Studies have shown that individuals with low back pain experienced a decrease in the strength of the ilioposoas muscle due to its connection to the pelvis and lumbar region. Because of this connection the ilioposoas a muscle can stabilize the spine. In addition, where the pain occurs.

Methods: Sample was chosen patient suffering from pain in the ilioposoas muscle and a back slope of the spine in the form of one group of (15). The primary measurements such as height, weight and age are taken in addition to basic measurements such as angle of pelvic tilt, flexibility, Musculature and posterior muscle length.

Obegective: The aim of this research is to identify the effect of the proposed rehabilitation exercises on the restoration of the basic functions of the lumbar region and the ilioposoas a muscle through of disappearance of pain. Restoring the motor range of the pelvic joint. The speed, muscle strength and normal length restore the lumbar region of the spine to its natural state.

RESULTS: The proposed treatment program has a better effect on the return of the injured to normal state.

- Restoring pain, strength, elasticity, improving the motor range of the pelvic joint, the lumbar region to its natural position, restoring the posterior muscle of its elasticity.

Recommendation: -

Need to follow the physical mutations genetically in the family members periodically.

Note the shape and extent of the joints during the performance of excessive flexibility in some joints.

Strengthening the muscles in the region of the abdomen and pelvis, especially the muscle ilioposoas with high follow-up instructions and abdominal exercise.

The habits of faulty and unstable in physical conditions for long periods and attention when shifting from the horizontal position of the head.

Key Words: lordosis, lumbar curvature, posture, spine iloposoas pelvic, low back pain

[1] Point of researcher: Helwan University- Faculty of physical Education for Boyes in Cairo – sports hygiene Department of Health

Introduction:

Spinal cord is a long, fragile tube like structure that begins at the end of the brain and continues down almost to the bottom of the spine (vertebral column). The spinal cord consists of nerves that carry incoming and outgoing messages between the brain and the rest of the body. Injuries may affect the spinal cord or the roots of the spinal nerves (short branches of the spinal nerves), which pass through the spaces between the vertebrae. The bundle of nerve roots that extend downward from the spinal cord may

one has a unique structure that makes it work in a synchronous way.

Chaffer and others confirm that the body consists of more than 600 muscles that move between more than 200 bones. Each one has a unique structure that makes it work in a synchronous way The bones, nerves, muscles and ligaments give the body the ability to perform all motor functions, whether the movements are total, individual or technical, the typical muscles contain (75%) water and protein and the rest consists of carbohydrates, fats, and inorganic salts. It is estimated that 42% of the total body weight of males consists of muscle tissue, compared to 39% of female weight. (33)

Adel aly Hassan says that vertebral column is the center of support for all parts of the body and is used in most of the movements we do and .The problems of the spine starts small but ends up to be responsible for about 50% of back pain. The vertebral column composed of (33) spine and discs between each other. The vertebral column and the lateral gaps between each

According to Samia Khalil, 2008, muscle injuries of all kinds are very frequent and spread among athletes. 90% of sports injuries are muscular, because muscles are the main tool for physical performance and a major component of the human motor system. Acute muscle and tendon injuries constitute 50% the back muscle as a result of overload because of strong and fast muscle contractions as well as lack of good warm up or lack of flexibility and fatigue. (6)

Chaffer and others confirm that the body consists of more than 600 muscles that move between more than 200 bones. Each

called lumbar or abdominal passages because they are in the abdominal area and number (5) vertebra, and curve back in the area of disability and coccyx and sacrum is a fixed area.

Rashed Al-Shamrani (1994) stated that the five large vertebrae in the lumbar area carry most of the body weight and function as the axis of the upper body movements on the lower part and increase the weight of the body represents a great pressure on this area causing a feeling of lower back pain and so Ligaments on the sides of lumbar vertebrae. (5)

Brinamon 2008 Several studies have shown that there is a direct relationship between the position of the pelvis and its shape with the development of the lumbar spine, especially the lumbar region where pressure is applied

vertebra are pathways of nerve roots that control the movement of the body and overall the sensitivity. (10: 195)

Ayman el-Husseini points out that the spine is made up of a group of connected bones with each other. They are (33) vertebrae, of which (24) are moving and (9) are connective. These are interconnected with a group of long strong ligaments, and the extended muscle on side of back. Spine of an adult is approximately (70 cm). (4-11:9)

Mohammad Fathi Hindi confirms that the vertebral column consists of four curvatures and is curved forward (convex) in the area of the neck, and arched back (concave) in the chest area, bowing forward in the abdominal area, curvature forward in the area of lumbar (concave) And are

lumbar region and is the reason because it is the most areas of the spine exposed to movement and use(3: 2)

iliopsoas muscle belongs to the inner hip muscles. It is actually built out of the two muscles, psoas major and iliacus muscles, which are separated in the abdomen, but later merge and share the same insertion in the thigh.

According to **Brinkman,** the muscle is the most important muscle causes pain of the lower back when spending a long time in the position of sitting for long time, whether the leadership or office is an increase in the pain of the lower back, whose degree depends on the amount of continuity in the stability for long periods,

to the vertebral discs and then define a group of angles that illustrate this relationship and affect the level of the pelvis. (21) (32) (24)

The tendency of the sacrum is the tendency of the angle of the surface of the sacrum to the horizontal level. This increase in tendency increases the tendency of the lumbar vertebrae, while the decrease in the angle of inclination reduces the sliding force and increases the vertical pressure force at the basic level in the stationary position of all individuals. The pelvic tilt gives an impression of the movement of the pelvis, especially from the movement of the lumbar vertebrae by the anterior or posterior coup on the axis extending between the femoral and angular surface. When the pelvic coup is forward, the angle of the sacral surface is large and the angle of lumbar concubine is large. At the posterior coupling, the angle of the mandibular slope is small and the pressure on the cartilage discs between the vertebrae is increased.

The vertebrae are designed to fit into the functions assigned to them. It is the general structure on which the rest of the organs are built. The dorsal muscles responsible for the erection are also positioned. Amal Elazab pointed out 2005 The most areas of the spinal column are prone to injury is the

This muscle belongs to the striated musculature and the innervation is carried by the femoral nerve as well as direct branches of the lumbar plexus.

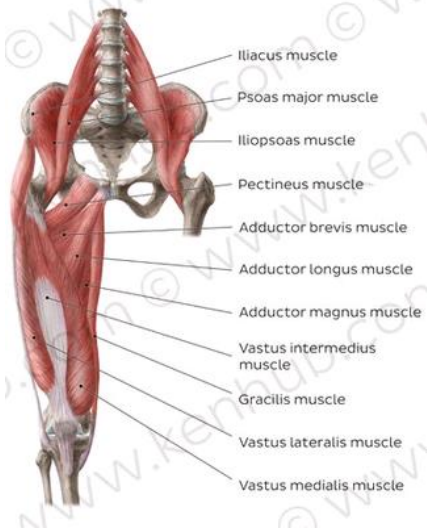
shortening the muscles of the thigh and constantly state becomes a case of Muscle weakness and chronic pain and may lead to negative manifestations of the postures. (22) (17)

Rashid bin Ahmed Al Shamrani1994 Lumbar hyperplasia is the increase of lumbar concubine and the convergence of the vertebrae of the vertebrae. What happens is the narrowing of the spaces in which the nerves go through. This causes a kind of pain due to pressure on the nerves, weakness and slackening of the abdominal muscles. It helps the lumbar passages absorb the effort that could have occurred. On these paragraphs. When sagging or weakening of the abdominal muscles occurs, the spine is tilted forward, causing imbalance in the trunk area. Researchers in the field believe that 75% of low back pain is due to weakness in the lumbar region. (6)

Rashid bin Ahmed 1994 Lumbar hyperplasia affects physical performance in a negative way as it is considered deformity.

Rashid bin Ahmed 1994 Lumbar hyperplasia affects physical performance in a negative way as it is considered deformity. It reduces the efficiency of joints and muscles working in the area of deformity and the body in general, both in terms of function and in terms of mechanics, especially in the motor system because it performs routine daily movements and physical movements.

The presence of physical deformities in the body it changes the mechanics of the performance of different skills and disperses forces in other side



The iliopsoas muscle consists of:

Psoas major muscle - originates from the bodies of the vertebrae T12-L4 and the costal processes of the vertebrae L1-L5. (The muscle inserts at the lesser trochanter of the femur, as the iliopsoas muscle).

Iliacus muscle - runs from the iliac fossa to the lesser trochanter.

Relations & Location

The psoas major and iliacus muscle unify in the lateral pelvis shortly before the inguinal ligament, becoming the iliopsoas muscle. There they pass below the inguinal ligament through the muscular lacuna together with the femoral nerve. Both muscles are completely surrounded by the iliac fascia. The lumbar plexus lies dorsally from the psoas major muscle which is penetrated by the genitofemoral nerve. Medially from the psoas major runs the sympathetic trunk.

Function

iliopsoas muscle is the strongest flexor of the hip joint (important walking muscle). In the supine position it decisively supports the

movements that do not serve the same skill. (6)

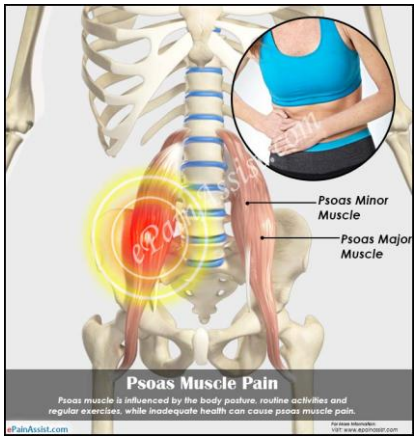
Anatomy

This is the deeply located muscle that is essential for the posture of the human body. Interesting is that the more the muscle is trained, the child birth is going to be faster and easier. So if someone within the female gender is interested in that, abs workout is recommended, since this muscle is a flexor. It comprises a complex of two muscles with different areas of origin.

Causes:

There are several reasons to distort the lumbar region in individuals in general and in women in particular, including genetic causes and acquired causes and affects this deformity of high weights, where the abdominal muscles are weak and flaccid, in addition to other reasons:
Excessive flexibility in some joints leads to this distortion.

- Wrong and wrong habits and wrong treatment.
- Weakness in the hip joint.
- Slackening of the abdominal muscles due to the wrong sport practice for long periods.



Several potential causes can lead to iliopsoas bursitis. One of the most likely causes is from straightening of the upper body (e.g. during sit-ups). Furthermore it rotates the thigh laterally. A unilateral contraction leads to a lateral flexion of the lumbar vertebrae column. Altogether the iliopsoas muscle plays a significant role in the movement and stabilization of the pelvis.

In rare cases an abscess (e.g. in bacterial spondylodiscitis) can spread within the iliac fascia and the muscle compartment until it reaches the lesser trochanter (psoas abscess).

Symptoms:

Lower back pain, the most common symptom, although it may occur from many symptoms, pain in the lumbar region (the border between the lower part of the spine and the buttocks that can occur in the lumbar spine or disability) when sitting or especially when changing Emerging situations from sitting to standing

Difficulty / Pain When trying to stand up fully erect.

- Pain in the buttocks.
-Pain goes down the leg.
-Thigh pain.
- Pelvic pain.
- Unbalance in the step when walking.

Several Studies have shown that some individuals suffering from low back pain have experienced a decrease in the level of the iloposoas muscle due to their connection to the pelvis and the lumbar region. Because of this connection, the iloposoas muscle can stabilize the spinal column.

repetitive use. Athletes and physically active people are more at risk than people who are sedentary. Runners, skiers, and swimmers are all at risk of developing the condition**.**

Also, a person who has tight hips may develop iliopsoas bursitis. Tight hips put additional pressure on the ligaments, joints, and muscles. The pressure causes friction, which can lead to the condition.

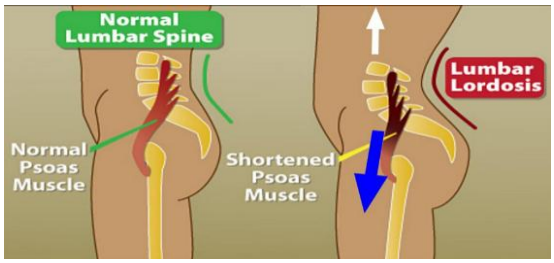
Some chronic conditions can also cause iliopsoas bursitis. In particular, people with arthritis, both rheumatoid and osteoarthritis, are at an increased risk. Both of these conditions can cause excess friction in the hips that then leads to iliopsoas bursitis.Abrupt movements (e.g. shooting the soccer ball) and overload may cause an inflammation of the tendon or the associated bursa (iliopsoas syndrome). A pathological shortening of the muscle leads to hyperlordosis of the lumbar vertebrae column over the long term due to unnatural and incorrect strain.

When the weakness and elongation of the abdominal muscles wall, the muscles of the kidney, the muscles of the back thigh and the corresponding weakness and strength of the muscles of the lower back, the muscle straight thigh and the muscles of the bilateral hip joint will lead to a loss of balance in muscle work in this region this will lead to lose The balance of muscle work in this region . Weakness and failure of the body's mechanics, especially in the lumbar region, which causes the abdominal thrust forward and the tendency of the pelvis forward and down, where the weight of the body Moreover, the minor and the major, where they unite in the indigestion and cause the increase of lordosis.

When the iloposoas muscles weakness is reduced in this case which the pain occurs and mentions both that the muscle iloposoas active during the stages of treatment Catch and extend the alarm where it can be fixed to the trunk .(20)

Mechanical injury:

Good strength is defined as the mechanical relationship between the body's various organs (bone, muscular, neurological and biological).



Montaser Ibrahim 2004 and Marl Colm and Reed 2000 believe that stretching and strength training should be used according to the nature of each case and that prosthetic training should be used to reduce the lower back.

Methodelgy:

The study was carried out in the period from 27/12/2017 to 15/1/2018 on the was randomly selected for subject with iloposoas muscle pain and had a posterior tendency in the spine of one experimental group who do not require surgical intervention between the ages of (30 to 40),. rehabilitation program

from the wide surfaces strong of the lumbar vertebra and towards the arches and vertebral column. Izzet Mahmoud Kashef 1990 To perform his professional activity and return to the stadiums after restoring the basic functions of the injured part. The rehabilitation and exercises are the most important and most effective means in the treatment of various injuries, as it helps to quickly get rid of gatherings and blood accumulations and prevent the bleeding that can occur in the joint, which helps to restore the muscles and joints to function in the shortest possible time. (12: 12)		was applied to a sample of (15) injured patients who visited the centers of natural and rehabilitation medicine and the injured in the lumbar area with a total of (12) weeks for each case by three units per week. Initial measurements such as height, weight and age were taken in addition to basic measurements such as angle of pelvic tilt, flexibility, muscular range of motion, muscular strength, and hamstrings length . Medical team collect data and information related to the subject of the study. Reports for each subject. Pain Scale (vas) through doctors, team and the therapist includes.

Results:

Table (1)

Mean, standard deviations, mean and spacing of variables (age, height, and weight) are under consideration

Variables	Mean	SD	Median	Cocofficient
Age	33.06	7.025	34.00	0.278
Length	178.266	7.382	18.000	-0.625
Weight	86.200	9.503	84.00	-0.231
BMI	26.840	2.890	27.400	-0.190

all the values of the arithmetic averages exceed the values of the standard deviations, and that all the torsion values are limited to ±3 indicating homogeneity of the sample and free of irregular distribution defects.

Table (2)

Arithmetical averages, standard deviations, mean and spacing of the variables in question in pre measurements

variables	mean	SD	median	cocofficient
flexibility	88.466	6.978	88.000	0.387
Muscle Length	24.600	4.807	25.00	0.045-
Lordoses angle	63.566	8.198	65.00	1.134-
pain	6.533	1.187	7.00	0.091

all the values of the arithmetic averages exceed the values of the standard deviations, and that all the torsion values are limited to ±3

(Table (3)

Significance of the differences between the pre and the post measurements in the variables under consideration in the Wixson method. (N = 15)

Variables	measurements	Mean rank	direction	Values	Total values	z values	Probability of error
flexibility	Pre	0.00	-	0	0.00	3.414	0.001
	post	8.00	+	15	120.0		
Muscle Length	Pre	8.00	-	15	120.0	3.431	0.001
	post	0.00	+	0	0.00		
Lordoses angle	Pre	8.00	-	15	120.0	3.409	0.001
	post	0.00	+	0	0.00		
pain	Pre	8.00	-	15	120.0	3.3496	0.000
	post	0.000	+	0	0.00		

shows statistically significant differences between the pre and post measurements in all variables and in the direction of telemetry and the application of the Wilkinson test to denote the differences between the pre and post-primary measurements

table(4)

The percentages of change between the mean and the remote measurements in the (15 =n) variables under consideration

variables	mean of Post measurement	mean of Pre measurement	Percentage change
flexibility	88.466	101.466	14.69
Muscle strength	24.600	19.333	27.24
Lordosis angle	63.266	46.533	35.95
pain	6.533	2.400	172.20

Table (4) shows that the percentage of change between the mean of the pre and the post measurements in the variables under discussion were limited between 14.69 and 172.20.

Discussion

The aim of the study was to identify the effect of a therapeutic program on the ilopoaoas muscle and its effect on the pelvic and lumbar levels. In light of the study objectives, four hypotheses were discussed. The parameters were measured using the mean and standard deviations. Table (2) and pre in the arithmetic mean (88.44) were in the

and minor iliopoaoas muscles, Causing The increase in abdominal constriction occurs when the weakness of the muscles is reduced in size and the condition in which the pain occurs and the iliopoaoas muscle is active during the treatment stages in the catch and extension of the alarm, where it can be fixed to the trunk (22) and this is consistent with Ashjan 2013 that whenever available To apply the program at different angles of muscle work possible whenever it helped to develop muscle groups during the full range of locomotion where the angles of muscle inclination on which the muscle works so that it is responsible for starting movement and work on the movement of movement from the beginning to the end (3) Khalil and

dimension measurements and in the significance of the differences between the measurements, the tribal and the telemetry were (120) and the values ratios (3.414) and where they were greater than the calculated value, The improvement was (14.69) This is in line with the study of Mohamed Selim, the Marco 2014 study, 18 the Yudasu 2014 study, the Aya Gamal 2013

study, the Muhammad Khalid study 2013, and the Richard 1994 study

This is clear from the existence of statistically significant differences at the level of (.05) between the tribal and remote measurements for the benefit of telemetry in the variable range of the locomotor range of the muscles in the lumbar region where the calculated values were the highest improvement rates between the pre measurement and post measurement of the variable of the motor range. This was in line with the first hypothesis and the restoration of the motor range and elasticity of the pelvic joint. The measurements of the length of the posterior muscle were from Table 2 in the pre measurement (24.600) and in the telemetry (19.33). The change rate was (27.24) This is in line with a study conducted by Marco 2014 entitled Effect of

Yudas and the study of Ghayad Darwish which was his A study aimed at studying the comparison of the lumbar spine and the length of the posterior bite and the relative level of the pelvis is consistent with the study of Mohamed Mahmoud Ziadeh The researcher finds that the difference in the rates of improvement in favor of telemetry is the result of the positive effect of the training using the rehabilitation exercises in the qualifying program units (6) (8) (12) (15) (18) (34) It is clear from Table (3) (4) that there are statistically significant differences at the level of (0.5) between the tribal and remote measurements for the benefit of telemetry in the variable pain score of the muscles working on the lumbar region. The value of (6.533) While the improvement in pain was (172.20). The researcher attributed the progress and improvement of the pain group to the positive effect of the functional training in the rehabilitation program. The researcher attributed this improvement and superiority to the fact that the program was aimed at developing muscular strength, nerves that pass between the vertebra reduce the pain and restore the vertebra and normal position as well as the ilopoaoas muscle to its normal length and also the back muscle and has helped		Strength and Tension Exercises of the Abdominal Musculoskeletal of Lower Back Pain and the Study of Muhammad Samir 2013 and the Study of Udas 2014 and Study of Aya Gamal 2017 Is consistent with the study of Carigarro 2006 and the study of Jung Houm 2017 and thus the second hypothesis, which confirms the restoration of the back muscle of the natural length has been achieved is a key factor in the success of the therapeutic program. , And it is clear from Table (3) that the angle of the lumbar area, which gives an indication of the condition of the episus muscle in terms of height or shortness or weakness and strength, in addition to determining the defect occurred in the relative level of the pelvic joint, and studies have shown that some individuals who suffer from Lower back pain has a decrease in the level of strength of the ilopoaoas muscle due to its connection to the pelvis and lumbar region. Because of this connection, the ilopoaoas muscle can stabilize the spine. It is clear that the muscle tension is formed by the union of the major increasing elasticity of joints and elasticity of the muscles, These exercises to reduce the pressure on the vertebrae in the lumbar region and thus lead to the removal of pressure on the muscles surrounding the spine as well as rubber muscle working. The proposed treatment program works on: 1 - The decline and disappearance of pain in the lumbar region of the spine.

so much Determining the degree and direction of injury and dealing with the individual patient based on follow-up rate of improvement. Where the previous Arab and foreign studies indicate that the rehabilitation programs are working to reduce the degree of pain and this is consistent with the study of Ghayad Darwish, 12 Khalid Khalid, 14 and Muhammad Mahmoud Ziadeh, 17 as agreed with Ayatollah Jamal (20) (34) This is what fulfills the fourth hypothesis. It is clear that the therapeutic rehabilitation program has a positive effect on the alleviation of the pain caused by the defect in the lumbar region and pelvis as well as the restoration of flexibility and the extent of motor and the length of the hind muscle where the hypotheses were achieved and the differences were statistically significant for the dimension measurements in the impact on the muscles working on the lumbar region of the spine. **Results** A - The proposed treatment program has a better effect on the return of the injured to his natural state. B - Restoring flexibility and improving the motor range of the spine and		2 - Restoring the movement of the spine. 3 - Restore the elastic muscles working on the spine 4 - The disappearance of lumbar concubine significantly **Recommendations**: 1 - The need to pay attention to the treatment of injury after the onset of pain and after careful diagnosis to speed treatment and rehabilitation and avoid the occurrence of complications. 2 - The need to pay attention to the instructions of the program, which is the timing of each stage of treatment and the use of means on a regular basis. 3 - Interest in the implementation of the training program and take all preventive measures, which are: A - Not to over-training and take into account the rationing of loads. B. Emphasis on adherence to flexibility, lengthening and strength exercises for the muscles surrounding the spine. D - The presence of ice continuously during training and use after the emergence of pain. E) To benefit from the study procedures and the program used in the design of other programs. g- And take the right positions while sitting stand up

Refrencess

1) Abdul Aziz al-Nimr - Nariman Khatib Amr el sokary : muscle prolongation, first edition, the book center for publishing, 1997.
2) Abo El Ola Ahmed Abdel Fattah: Biologics sport and health of sports Dar Maaref Cairo First Edition Cairo 1998
3) Adel Ali Hassan: Sports and health presentation of some sports problems and methods of treatment, the establishment of knowledge, Alexandria, 1995.
Faculty of Physical Education Volume Nineteenth Volume II
6) Aya Allah Gamal Ahmed Mahmoud : Influence of Bilateral Hamstrings Muscles Shortening on Some Radiological Parameters of Lumbosacral Spine , Master degree DEPARTMENT OF Basic Science, phuclty of ph-ther ,2017.
7) Ayman al – Husseini : Back pain, Ibn Sina Library. Cairo, 1994
8) Azza Fouad Shoura : Bends of the spine and some physical and physical measurements and its relationship to lower back pain of practices and non-practices of sports activity, published research, Journal of Comprehensive Physical Education Research, Faculty of Physical Education for Girls, Zagazig University, No. 8, and ,1996.
9) Berthonnaud el: Roussouly .p. Labelle H. Analysis of the sagittal spine and pelvise using shape and orientation parameters.; Spinal Disorder Tech ,2005.
4) Amal Said Al Azab : A program for exercises and ultrasound on pain relief. Chronic low back pain for women in the age group (30 to 40), unpublished master thesis, Faculty of Physical Education Girls, Helwan University,2005.
5) Ashghan Atef Mahmoud Al – Hamdi: Effect of the functional exercises of the muscles working in the lumbar region of the spine patients Mansoura University Journal of the
16) Jong Hoon Moon: Immediate effects of Graston Technique on hamstring muscle , Abu Qir, Alexandria, 2004
17) Kapandji AI: Fisiologia Articular. Vol. 2. 5ª ed. Guanabara Koogan, Rio de Janeiro, 2000.
18) Khaled Said the Siam Ibrahim : Effect of balance in the development of force between the muscles and the extension muscles of the knee joint on the maximum speed and pass for football players Journal of Physical Education, 2014.
19) Mahmoud Amin Ziadeh: Lumbar calcification and its relation to angle of pelvic tilt and electrical activity of the muscles working on it in some junior athletes unpublished master thesis Faculty of Physical Education Tanta University ,2003.
20) Marco Aurélio : Influence of Stretching and Strengthening of the Iliopsoas Associated with Lumbar Segmental Stabilization Exercises in Patients with Low Back Pain: Physical Therapy Department SP, Brazil,2014.

10) BIOT.B: techniques etroubles de la statique vertebrale . sauramps medical Montpelier . france, 2006.
11) Brinamon: THE PSOAS IN RELATION OF LOWER BACK PAIN, health, fitness University of New Mexico. 2008
12) CARREGARO RL : Comparison between tow clinical tests for the evaluation of posterior thigh muscle flexibility , Physical Therapy Post-Graduation Program, São Carlos Federal University, São Carlos, SP – Brazil,2006.
13) GELB: An analysis of sagittal spinal alignment in 100 asymptomatic middle and older aged volunteers. Spine .20. 1995.1351–1358
14) Ghayad Darwish: A Comparative Study of the Elements of Arterial Colorectal Artery and the Length of the Back Thigh Musculoskeletal Patients in the Lumbar Uterine and Natural Entities, Faculty of Medicine, Tishreen University Research and Scientific Studies Series Health Sciences Vol. (337) No. 3, 2015.
15) Hossam El Din Sharara : Unpublished memo Faculty of Physical Education Sport anatomy,1995.
29) Richard : influence of hamstring length on standing position and flection range of motion of pelvic angle lumbar angle and thoracic Angle , 1994.
30) Samia Khalil : Al - Qahtani Al Qahtani, The Iraqi Academy of Sports, 2005
31) Schafer : Chiropractic Management of Sports and Recreational Injuries" Second
21) Mohamed Fathi Hindi : Medical Anatomy of Athletes, Arab Thought House, Cairo, 1991.
22) Mohamed Kadri Bakri : Sports Injuries and Modern Rehabilitation Book Center for Publishing. Cairo, 2000.
23) Mohammad Khalid Al Qudah: The Effect of therapeutic Exercises on Rehabilitation of Chronic Cartilage Disorders, Educational Sciences Studies Volume 40, Appendix 4, 2013.
24) Mohamed salim: Role of poaoas muscle on low back pain, Armed Forces Bakstan, 2003.
25) Mohamed Sobhi Hassanein: Down Down, Knowledge Center, Alexandria, 1996.
26) Montaser Ibrahim Tarfeh: The Effect of Using a Proposed Water Rehabilitation Program on Rehabilitation of Lumbar Lumbar Injuries, Published Research, Theories of Applications, No. 51, Faculty of Physical Education
27) Nourbakhsh MR : Relationship Between Mechanical Factors and Incidence of Low Back Pain. J Orthopnea Sports Phys Thera ,2000.
28) Rashid bin Ahmed Al Shamrani : Differences between Lower Back and Down Syndrome Patients in the Stress of Life Events, Unpublished Master Thesis, Faculty of Physical Education, King Saud University, 1994.
32) SHAO : Radiographic changes in the lumbar intervertebral discs and lumbar vertebrae with age. Spine 27.N3, 2002
33) Rashid bin Ahmed Al Shamrani : Differences between Lower Back and Down Syndrome Patients in the Stress of Life Events, Unpublished Master Thesis, Faculty of Physical

Edition ~ Williams & Wilkins.

Education, King Saud University, 1994

34) The Holy Quran : Surat Al - Tarik Ayya (7)

35) Youdas : Lumbar lordosis and pelvic inclination in adults with chronic low back pain. . Phys Ther, 2014.