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The Role of Pelvic Floor Muscles in Hip Pain: Women's Health and a Holistic Assessment

Maryam Karami[1]

Abstract

This review explores the relationship between pelvic floor muscle dysfunction and hip pain, especially in the context of women's health. It highlights anatomical and biomechanical connections, discusses diagnostic strategies, and reviews treatment approaches, emphasizing a holistic and multidisciplinary view. The purpose is to aid clinicians in recognizing pelvic floor involvement in hip pain and to improve assessment and treatment practices.

Keywords: Pelvic floor muscles, Hip pain, Women's health, Biomechanics, Musculoskeletal dysfunction

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[1] İstanbul Aydın Üniversitesi, Health Sciences Faculty, Istanbul, Türkiye

Introduction

It is a musculoskeletal problem that is prevalent in the hip, which is a significant part of life. Although it can be attributed to abnormalities, muscle strains or nerve compressions, the source of the pain may not always be obvious. In recent years, it has been observed that pelvic floor muscle (PTM) dysfunctions (PTD) can play an important role in the development and maintenance of pain in the hips and are continuing with increasing persistence. The pelvic floor is a hammock-like structure consisting of muscles, ligaments and fascia located in the lower part of the pelvis, supporting the rectum and reproductive organs. These muscles, centrally and centrally controlled, undertake vital tasks such as symbolic functions and postural stabilization.

The condition of the pelvic floor muscles is of great importance, especially in terms of women's health. Pregnancy, gynecological operations and menopause can affect the pelvic floor muscles and lead to various dysfunctions. The close anatomical and biomechanical relationship between the hip joint and the pelvic floor muscles suggests that a problem in one area may indicate another. For example, excessive density (hypertonia) or weakness (hypotonia) in the pelvic floor muscles can affect the movements and stability of the hip joints, causing pain or aggravating existing pain.

The purpose of this review is to provide a holistic assessment of the current literature meetings, addressing the role of the pelvic floor muscles in hip retention, especially from a women's health perspective. Pelvic floor anatomy and its characteristics, its relationship with hip massage, diagnostic and assessment methods, and treatment methods will be examined in detail in this comprehensive review. The aim is to provide clinicians with a detailed perspective to consider the potential contribution of pelvic floor dysfunction, which can be differentiated from hip pain complaints, and to adjust their treatment plans accordingly.

Keywords:Pelvic floor muscles,Hip health,Women's health,Holistic assessment,Musculoskeletal system,Pelvic dysfunction,Postural deterioration,Functional anatomy,Lumbopelvic region,Pain management

2.1. Pelvic Floor Anatomy and Functions

The pelvic floor is a complex structure of muscles, fasciae and ligaments that covers the lower outlet of the pelvis (pelvis coccyx). Anatomically, it is generally composed of three layers: the outermost superficial perineal muscles, the middle urogenital diaphragm and the innermost pelvic focus (levator ani and coccygeus muscles). The levator ani muscle group (comprising the puborectalis, pubococcygeus and iliococcygeus muscles) is the largest and most important part of the pelvic floor and provides basic support for the pelvic organs.

Basic features of the pelvic floor muscles:

1. Support Functions: Prevents the backing up of pelvic organs such as the bladder, uterus (in women), prostate (in men) and rectum and their sagging (prolapse).

2. Sphincteric Control: The muscles around the urethra and anus contract and provide continence. When they relax, voluntary urination and replacement are possible.

3. Sexual Function: Plays a role in sexual arousal and orgasm. Rhythmic muscle contractions increase sexual pleasure.

4. Stabilization and Posture: Flexibility (core stabilization) along with the pelvic floor muscles, abdominal muscles, back muscles and diaphragm contribute to the stability of the trunk and pelvis. This is especially important during activities such as standing, walking and carrying loads.

5. Role During Birth: Relaxes and stretches to assist in the passage through the birth canal during birth.

Any disruption in this desire is referred to as pelvic floor dysfunction and can be referred to as pelvic floor dysfunction.

2.2. Anatomy and Biomechanics of the Hip Joint and Surrounding Muscles

The hip joints (articulatio coxae) are formed between the femoral head and the acetabulum, a synovial joint of the upper and socket (spheroid) type. It is one of the largest and most stable joints in the body, and is critical for both mobility and weight distribution. Hip involvement allows for a wide range of motion, including flexion, extension, abduction, adduction, internal rotation, and external rotation.

The movements and stability of the hip joints are provided by strong muscle groups. These muscles can be generally classified as follows:

1. Flexors: (Anterior group) Iliopsoas (iliacus and psoas major), rectus femoris, sartorius, pectineus. These muscles bring the thigh closer to the trunk.

2. Extensors: (Back group) Gluteus maximus, hamstring muscles (biceps femoris, semitendinosus, semimembranosus). These muscles push the thigh towards the joint.

3. Abductors: (Side group) Gluteus medius, gluteus minimus, tensor fascia latae. These muscles curl and open to the right side and provide stability of the pelvis during walking.

4. Adductors: (Inner group) Adductor longus, adductor brevis, adductor magnus, pectineus, gracilis. These muscles pull towards the curved midline.

5. External Rotators: Piriformis, gemellus superior and superior, obturator internus and externus, quadratus femoris, gluteus maximus. These muscles rotate the thigh.

6. Internal Rotators: Anterior fibers of gluteus medius and minimus, tensor fasciae latae. These muscles rotate the thigh inward.

There is a close anatomical and functional relationship between the muscles of the hip joint members and the pelvic floor muscles. For example, the obturator internus muscle is a part of the pelvic wall and is also a powerful external rotator of the hip. The pelvic floor muscles indirectly affect hip functions by providing pelvic stability during hip

movements. A dysfunction in the pelvic floor muscles, excessive or incorrect use of the hip muscles, may prevent the path from separating or cause hip pathologies to affect the pelvic floor. Therefore, it is important to consider those with fractures in these two areas in the evaluation of shoulder grip.

2.3. Relationship Between Pelvic Floor Dysfunction (PTD) and Hip Pain

Pelvic Floor Dysfunction (PTD) is the inability of the pelvic floor muscles to perform their normal functions. This can manifest itself as muscles that are overly tense (hypertonic), weak (hypotonic), or uncoordinated. There are many possible causes of PTD; These include pregnancy and childbirth, pelvic surgeries, traumas, chronic constipation or straining, excessive or incorrect exercise, obesity, aging, and certain disease states.

Indications for PTD are quite diverse and are distributed as follows:

Urinary Problems: Urinary hesitancy (stress, relaxation or mixed urge), frequent urge to urinate, sudden heart palpitations, painful heart rhythms, a feeling of not completely emptying the areas.

Intestinal Problems: Fecal incontinence, constipation, painful evacuation, feeling of incomplete evacuation.

Pelvic Pain: Chronic pelvic pain, pain during sexual intercourse (dyspareunia), pain in the coccyx (coccydynia), pain in the genital area.

Pelvic Organ Prolapse: The bladder, uterus, or rectum sagging or showing down through the vagina.

Sexual Dysfunctions: Orgasm problems, decreased sexual desire.

The relationship between pelvic floor dysfunction and the hip ligament is complex and can be explained by several mechanisms:

1. Biomechanical Connections and Muscle Imbalances: The pelvic floor muscles, together with the hip and lumbar muscles (core muscles), provide stability to the permanent lumbopelvic region. In the case of PTD, the balance between these muscles can be disrupted. For example, weak pelvic floor muscles can cause overwork (compensation) of muscles such as the hip abductors (such as the gluteus medius) or deep hip rotators (such as the piriformis). This can lead to tension, fatigue and ultimately pain in these muscles. Similarly, excessive flexibility (hypertonia) in the pelvic floor muscles can cause compression of the hip joints, restricting their movement or causing abnormal movement patterns.

2. Referred Pain (Referred Pain):Trigger points (trigger points) or tender areas in the pelvic floor muscles can refer pain to the buttocks, groin, lower back or sometimes. This can cause persistent pain to be felt in the buttocks, even though the actual source of the pain is in the pelvic floor.

3. Postural changes:PTD can affect body posture. For example, pelvic tilt or asymmetry due to pelvic floor weakness can cause abnormal loads on the shoulder blades and soft tissues, which can lead to pain.

4. Nerve irritation: Nerves that pass through the pelvic floor muscles, such as the pudendal nerve, can be compressed or irritated in the case of PTD. This can cause radiating pain, swelling, or tingling in the buttocks and pelvic area.

Therefore, it is important to consider PTD as a potential contributing factor in women who are unexplained or in those who are recovering, especially if there are ungrouped urinary, outflow, or sexual dysfunctions.

3. THE ROLE OF PELVIC FLOOR MUSCLES IN HIP PAIN

3.1. Etiopathogenesis: How Do Pelvic Floor Muscles Contribute to Hip Pain?

The involvement of the pelvic floor muscles (PFM) in the hip block is diverse and usually occurs through the combination of multiple factors. These mechanisms are shaped by the anatomical proximity of the PFM, biomechanical connections and interactions of protocols.

1. Myofascial Trigger Points and Referred Pain: Myofascial trigger points in the pelvic floor muscles (e.g., levator ani, obturator internus, coccygeus) can refer pain to points in the buttocks, groin, low back, coccyx, and inner aspect of the pelvis. These trigger points are hypersensitive, taut bands in the muscle fibers that cause a characteristic referred pain pattern along with initial local warmth. Trigger points in the obturator internus muscle in particular were known to be accessible in the buttocks and gluteal region.

2. Muscle Spasms and Hypertonicity: Chronic excessive tension (hypertonicity) or spasms in the pelvic floor muscles can directly cause pain, as well as negatively affect the biomechanics of adjacent joints and muscles. Hypertonic PTC can alter the pelvic bone structure (in other words, pelvic asymmetry can be caused) or disrupt the load on the hip joint, paving the way for hip dislocation. In addition, continuous contraction in these muscles can lead to ischemia, blood separation, and breakdown of pain mediators.

3. Fascial Connections: The pelvic floor muscles are continuous with the muscles in the hip and lumbar regions (e.g., gluteal muscles, piriformis, adductors, transversus abdominis) through fascial structures. This fascial network allows for flexibility or dysfunction in one area to be resolved in other areas. Therefore, a problem in the PTC can cause tension and pain in the muscles of the hips via fascial pathways.

4. Nerve Compression and Irritation: Nerves outside the pelvic floor muscles or passing through the passage (e.g., pudendal nerve, branches of the sciatic nerve, obturator nerve) may be compressed or irritated by spasm, hypertrophy, or disease in the PTC. This may lead to pain, numbness, maneuverability, or weakness in the information innervated by the nerve (buttock, groin, leg). For example, similar to piriformis syndrome, a problem in the obturator internus muscle may affect the obturator nerve, causing pain in the fingers and medial aspect.

5. Postural Adaptations and Altered Movement Patterns: Pelvic floor dysfunction involves the body's overall posture and movement patterns. For example, abnormal posture or gait patterns to compensate for pain or weak muscles can put excessive stress on the hip adduction and transition muscles, leading to excessive pain. Given the role of the PTK in core stabilization, weakness or dyscoordination in these muscles can compromise the stability of the lumbopelvic region, placing abnormal stresses on the hip joints.

6. Inflammatory Processes: Although rare, inflammatory conditions in the pelvic floor areas (e.g., prostatitis, interstitial cystitis) may cause discoloration of the buttocks by spreading to adjacent tissues or through referred pain.

This etiopathogenetic, comprehensive, and critical imaging is essential for accurate assessment of the pelvic floor muscle role and for the provision of targeted treatment modalities.3.2. Clinical Findings and Diagnostic Approaches

The clinical findings of hip adaptor syndrome due to pelvic floor dysfunction (PTD) are widely variable and often nonspecific, making diagnosis difficult. However, a careful history and brief physical examination can provide important clues about the potential role of PTD.

Clinical Findings:

1. Character and Localization of Pain:

The pain can usually be single or double-sided and may radiate to the buttocks, groin, gluteal region, coccyx, lower back, or globe.

The pain may be dull, aching, burning, shooting or cramping.

Pain may increase with activities such as sitting (especially on hard surfaces), standing for long periods, walking, sexual intercourse, teething, or stressing the body.

Some patterns may describe a feeling of fullness, pressure, or heaviness in the pelvic area or buttocks.

2. Accompanying Symptoms: One of the most important details that suggest the presence of PTD is the number of other pelvic floor pains that come between your legs:

Urinary Symptoms: Stress or acceleration type loss, frequency expenditure, sudden urgency, painful heart making, incomplete emptying of chambers.

Intestinal Symptoms: Constipation, painful regurgitation, incontinence of bowel products, incontinence of gas, feeling of incomplete evacuation.

Sexual Dysfunction: Pain during or after sexual intercourse (dyspareunia), inability to achieve orgasm or painful orgasm, decreased sexual desire.

Pelvic Organ Prolapse Symptoms: Moisture, fullness, or a feeling that something is hanging down in the vagina or rectum.

3. Past Medical History: Pregnancy, difficult delivery, episiotomy, pelvic surgery (hysterectomy, prostate surgery, etc.), pelvic trauma, history of chronic constipation, recurrent pelvic diseases, or conditions such as endometriosis are risk factors for PTD.

Diagnostic Approaches:

Diagnosis of hip pain due to PTD is based primarily on clinical evaluation. Imaging and other tests are often used to rule out other problems or to support the diagnosis.

1. Comprehensive Anamnesis: The patient's pain history (onset, duration, character, localization, severity, triggering and pathological factors), pelvic floor severity without types, treatment and disease history, obstetric history, lifestyle and psychosocial characteristics should be questioned in detail.

2. Physics:

Posture and Gait Analysis: Postural disorders such as pelvic asymmetry, scoliosis, growth or decreased lumbar lordosis and normal gait patterns were used.

Lumbopelvic Examination: Range of motion, muscle strength, and special provocation tests (e.g., FABER, FADIR tests) of the lumbar, sacroiliac joints, and hip joints are performed.

Pelvic Floor Muscle Examination: This examination plays a key role in the diagnosis of PTD and is performed by a health professional (physiotherapist, urogynecologist, physical therapy and participation specialist).

External Examination: Observation of the perineal area (skin breakdown, scar tissue, signs of prolapse), assessment of the ability of the pelvic floor muscles to voluntarily contract and relax (e.g., observation of perineal movement during Kegel exercise).

Internal Examination (Vaginal and/or Rectal Touch): Tone (hypotonic, normotonic, hypertonic), tenderness, presence of trigger starts, muscle strength (grading systems such as the Oxford scale are available), temperature and coordination of the pelvic floor muscles can be provided. In particular, the obturator internus, levator ani and coccygeus muscles are palpated to look for tenderness and trigger points. Triggering or increasing pain with palpation of these muscles suggests the contribution of PTD to the hip girdle.

Special Tests: Tests such as the single-leg stance test and the active straight leg raise test (ASLR) can provide information about lumbopelvic stability and functional equipment that can be operated with the PTD.

3. Auxiliary Diagnostic Methods:

Imaging Methods (MRI, Ultrasonography):Usually used to exclude hip joint problems (arthritis, labrum tear, etc.) or other pelvic pathologies (endometriosis, cysts, etc.). Dynamic ultrasonography or MRI can be helpful in evaluating the movement of the pelvic floor muscles and pelvic organ prolapse.

Electrophysiological Testing (EMG): Can be used to detect electrical dissociation and nerve damage of the pelvic floor muscles, but is not commonly used routinely.

Urodynamic Tests: Can be performed to detect urinary tract abnormalities such as urinary retention or voiding dysfunction.

The diagnostic process may require a multidisciplinary approach and should be individualized according to presentation and freedom.

3.3. Differential Diagnosis

The distinction between hip dislocation due to pelvic floor dysfunction (PTD) is broad, as many different musculoskeletal, rupture, and visceral pathologies can cause the condition. Excluding or assessing the coexistence of these conditions is important for accurate diagnosis and effective treatment.

Features to be taken into consideration in recognizing the separator:

Musculoskeletal System Pathologies:

1. Hip Joint Pathologies:

Osteoarthritis (Calcification): It is a healthy condition with degeneration of joint cartilage, especially seen in older ages. Pain usually increases with movement, there may be morning stiffness groups.

Femoroacetabular Impingement (FAI): Looseness of the joints due to the abnormal shape of the femoral head or acetabulum. It can cause groin and hip pain in young, active individuals.

Labrum Tears: This is the tearing of the labrum, which is the cartilage ring along the acetabulum. It can cause pain, a catching and locking sensation.

Avascular Necrosis: Death of bone tissue as a result of decreased blood flow to the femoral head. Severe hip fractures can occur.

Hip Area Tendinopathies/Bursitis: Conditions such as gluteal tendinopathy and trochanteric bursitis can cause pain on the side of the hips.

2. Lumbar Spine Pathologies:

Lumbar Disc Herniation: It can cause pain radiating to the hip and leg (sciatalgia) by pressing on the nerve roots.

Spinal Stenosis (Canal Narrowing): It is the compression of nerves as a result of the fluctuation of the spinal canal. It can cause leg pain and numbness, especially when walking.

Facet Joint Syndrome: Pain radiating to the waist and shoulders may occur as a result of degeneration or formation of the facet joints between the vertebrae.

3. Sacroiliac Joint Dysfunction: Abnormal movement or stiffness in the sacroiliac joints (the connections between the pelvic comedy and coccyx) may result in hip, low back and groin protection.

4.Piriformis Syndrome: Pain, numbness and tingling radiating to the buttocks and legs due to compression of the sciatic nerve by the piriformis muscle. Symptoms may mimic sciatic nerve irritation due to PTD.

5. Other Myofascial Pain Syndromes: Hip strain can cause similar pain in trigger points in other muscles (gluteus medius, quadratus lumborum, etc.).

Neurological Pathologies:

1. Pudendal Neuralgia: Compression or damage to the pudendal nerve causes severe, burning pain in the perineum, genital area and rectum. There may also be a hip pack.

2. Obturator Neuralgia: Pain and loss of sensation may occur in the inner surface and groin as a result of compression of the obturator nerve.

Visceral (Internal Organ Origin) Pathologies:

1. Gynecological Conditions (In Women):

Endometriosis: Chronic pelvic pain, dyspareunia and infertility may occur as a result of the endometrium remaining outside the uterus. The pain may radiate to the hips.

Pelvic Inflammatory Disease (PID): Infection of the reproductive organs causes pelvic pain and tenderness.

Ovarian Cysts or Tumors: Large cysts or tumors can cause pain by pressing on them.

2.Urological Conditions:

Interstitial Cystitis / Painful Bladder Syndrome: It is accompanied by chronic treatment and pain in the bladder. Frequent urination and pelvic pain are seen, the pain may radiate to the hip.

Chronic Prostatitis (in Men): Chronic treatment of the prostate may cause pelvic pain, urination problems and sexual dysfunction.

3.Gastrointestinal Conditions:

Irritable Bowel Syndrome (IBS): It progresses with abdominal retention, bloating and changes in output. Pain may be reflected in the pelvic area and hips.

Diverticulitis: It is the emergence of vesicles (diverticula) in the thick exit.

The differential diagnosis process includes a detailed history, a thorough physical examination, and a review of their appropriate imaging and laboratory tests. It should be noted that PTD can coexist with other conditions (comorbidity). Therefore, the treatment plan should be holistic, addressing all contributing factors.

4. WOMEN'S HEALTH PERSPECTIVE

4.1. Pelvic Floor and Hip Pain During Pregnancy and Postpartum

and the birth process causes significant anatomical and visible changes in the female body, especially in the pelvic region and hip joints. These changes can strain the pelvic floor muscles (PFM) and the hips, which can predispose to various pain syndromes and pelvic floor dysfunction (PTD).

Effects on the Pelvic Floor and Hips During Pregnancy:

1. Hormonal changes: Hormones such as relaxin and progesterone secreted during pregnancy cause the connective tissues and joints to loosen. This can compromise the stability of the pelvic bones (especially the symphysis pubis and sacroiliac sections) and hip joints, making them more prone to pain and injury.

2. Increased Mechanical Load: The weight of the growing uterus and the positions of the fetus increase the load on the pelvic floor muscles and hip joints. This constant loading can cause fatigue, tiredness and weakening of the muscles.

3. Postural changes: The forward shift of the body's center of gravity during pregnancy causes an increase in lumbar lordosis (waist curve) and pelvic tilt. These postural adaptations can lead to imbalances and pain in the hip and waist muscles.

4. Lengthening and Weakening of Pelvic Floor Muscles: The PTK may stretch and weaken due to the basic and hormonal effects of the growing fetus. This causes the support period to be extended and the risk of PTD to decrease.

Effects of Childbirth on the Pelvic Floor and Hips:

1. Muscle and Nerve Damage During Vaginal Birth: During the passage of the baby through the birth canal, the PTC is stretched excessively and can sometimes tear (perineal tears). In addition, nerves such as the pudendal nerve that innervates these muscles can be damaged by being subjected to pressure or stretching. Episiotomy (birth incision) can also cause trauma to the PTC.

2. Cesarean section: Although cesarean section does not directly cause PTC trauma, the surgical incision and healing process may indirectly affect pelvic stability and PTC function by affecting the muscles and fascial connections.

Common Causes of Hip and Pelvic Pain During Pregnancy and Postpartum:

Symphysis Pubis Dysfunction (SPD): Excessive mobility or protrusion in the pubic symphysis joint results in pain in the groin and pelvic area.

Sacroiliac Joint Pain: Instability in the sacroiliac joints or the result of treatment may cause pain radiating to the lower back, hips and legs.

Coccydynia (Coccyx Pain): It may develop as a result of trauma or calculation in the coccyx, especially after difficult births.

Pelvic Girdle Pain (PGP): It is a general pain syndrome originating from the joints and ligaments in the pelvic region, which may include the above events.

Myofascial Pain: Basic trigger points and muscle spasms in the PTC or muscles in the hip area (piriformis, gluteals, etc.).

Transient Osteoporosis: In rare cases, temporary osteoporosis may occur in the hip joint during reproduction and may cause severe pain.

Role of PTD:

Pregnancy and childbirth are important risk factors for PTD. Symptoms of PTD such as death escape, fluid leakage, and pelvic organ prolapse are frequently seen after childbirth. In addition to this PTD, weakness, hypertonicity, or

incoordination in the PTD, persistent changes, and aggravation of pelvic pain syndromes may be present or exacerbate existing pain. For example, weak PTD may impair lumbopelvic stability and increase the load on the hip joints. Hypertonic PTD may cause referred pain or compensatory overuse of adjacent muscles.

Therefore, it is important to adopt a holistic treatment approach that includes evaluating the number of survivors in the period after pregnancy and birth, evaluating PTD as a possible factor and, if necessary, pelvic floor equalization.

4.2. Gynecological Conditions and the Connection Between Pelvic Pain and Hip Pain

Many gynecologic conditions can cause chronic pelvic pain, and this pain can often be referred to the buttocks or be associated with a hip remnant. These conditions can further complicate the pain intervals that lead to pervasive pelvic floor muscle (PFM) dysfunction (PTD). In women who continue to complain of hip pain, the presence of an underlying gynecologic problem in the area should be considered.

Common Gynecological Conditions and Their Connection to Hip Pain:

1. Endometriosis:

These are problems that remain outside the uterus, usually on the pelvic organs (ovaries, fallopian tubes, exits, chambers) or in the peritoneum, which refers to the inner layer of the uterus (endometrium).

This ectopic endometrial tissue responds to hormonal changes with menstruation, bleeding and bleeding. This can lead to chronic pelvic pain, menstrual cramps (dysmenorrhea), pain during intercourse (dyspareunia), infertility and bladder outlet obstruction.

Endometriosis-related pain can radiate to the buttocks, waist, groin, and pelvis, depending on the location and extent of the lesions. Endometriosis implants, particularly those located in the uterosacral ligaments or pelvic sidewalls, can cause buttock and sciatica-like pain.

Chronic disease and pain may be present in PTC, with restriction of the PTD leading to protective spasms and hypertonicity. This may result in continued pain and loss of ability.

2. Pelvic Inflammatory Disease (PID):

It is an infection of the upper genital tract organs such as the uterus, fallopian tubes and ovaries, usually caused by sexually transmitted bacteria.

Acute PID causes severe pain in the lower abdomen and pelvic area, fever, and abnormal vaginal discharge. Chronic PID can cause milder but persistent pelvic pain, dyspareunia, and infertility.

Pain may radiate from the hip and low back due to inflammation and adhesions. PID may also cause reactive spasms and PTD in PTC.

3. On Cysts and Tumors:

Benign or malignant cysts and tumors in the ovaries can cause pelvic and lower abdominal pain, especially when they reach large sizes or become torsion (twisted).

It can be seen on the pack log through distribution of pressure or referred pain.

4. Adhesions:

Following previous pelvic surgeries (cesarean section, hysterectomy, appendectomy, etc.), endometriosis, or PID, fibrous bands (adhesions) may form between the pelvic organs or between the organs and the abdominal walls.

These adhesions can cause chronic pelvic pain by restricting the movement of organs and pressing on nerves. The pain may increase with movement or in certain positions and may radiate to the buttocks.

5. Uterine Fibroids (Myomas):

They are benign tumors originating from the muscle layer of the uterus. Depending on their size and location, they can cause excessive menstrual bleeding, a feeling of pelvic pressure, increased frequency and pain.

Large or localized fibroids can cause hip and spinal problems.

6. Pelvic Congestion Syndrome:

It is caused by enlargement (varicose) and pooling of blood in the pelvic veins, usually a mild condition with chronic pelvic pain that feels dull and heavy. The pain increases with prolonged sitting or standing, and decreases with lying down. It can radiate to the hips and buttocks.

Role of PTD and Differential Diagnosis:

Many of the gynecologic conditions that are increasingly improving can lead to reactive spasms, hypertonicity, and ultimately PTD in the PTK through chronic pain and treatment. PTD can exacerbate existing pain and become resistant to treatment. Therefore, the categories with a pelvic distribution (menstrual distributions, dyspareunia, urinary or outlet problems) with and without a shoulder bag were discontinued from a gynecologic evaluation.

In the differential diagnosis, in addition to gynecological pathologies, musculoskeletal system (hip joints, waist, sacroiliac joint problems), fractures (nerve compressions) and gastrointestinal (such as IBS) causes should be considered. A comprehensive anamnesis, a detailed gynecological and musculoskeletal examination, and monitoring methods such as ultrasound and MRI of the meetings help to clarify the diagnosis. The treatment should be aimed at the underlying gynecological pathology as well as the classifying PTD.

4.3. Effects of Menopause and Hormonal Revisions

Menopause is presented as a natural biological event, with the end of the woman’s ovarian status and the permanent end of menstrual periods. The most significant changes that occur during this period are the significant decrease in levels. Estrogen can have significant effects on the musculoskeletal system, connective tissue and pelvic floor health, and hormonal changes in menopause can increase the risk of pelvic floor dysfunction (PTD) and leg deterioration.

Effects of Hormonal Change on the Pelvic Floor:

1. Estrogen Decrease and Connective Tissue Changes:

Estrogen is important for collagen production and quality. Collagen is the basic building block of the fascia and ligaments that support the pelvic floor.

The decrease in development during menopause can lead to a decrease in collagen content, thinning of collagen fibers and loss of elasticity. This can lead to weakening of pelvic floor support and an increased risk of pelvic organ prolapse (POP).

Vaginal atrophy (genitourinary syndrome of menopause - GSM) may develop; thinning of normal tissue, dryness, loss of elasticity and pH changes are seen. This condition can lead to dyspareunia (painful intercourse), vaginal discharge, burning and recurrent urinary tract infections.

2. Decrease in Eyebrow Strength and Function:

Estrogen also has effects on muscle metabolism and strength. Estrogen deficiency may contribute to a decrease in overall muscle growth and strength (sarcopenia), including the pelvic floor muscles.

Weakening of the pelvic floor muscles may lead to the onset or worsening of PTDs such as stress urinary incontinence (SUI), fecal incontinence, and POP.

3. Changes in Nerve Functions:

The effects of estrogen on the nervous system are evident. Hormonal changes can affect the condition and function of the nerves in the pelvic area, which can affect pain perception or the development of neuropathic pain.

The Relationship Between Menopause, PTD and Hip Pain:

Increased Prevalence of PTD: The prevalence of PTD flare-ups such as SUI, POP, and overactive pelvis increases after menopause. These conditions can cause myofascial pelvic pain, leading to chronic tension, spasms, and trigger points in the pelvic floor muscles. The consequences of this pain can be reversible.

Musculoskeletal System corrections:

Osteoarthritis (OA): Menopause increases the risk of OA, especially in weight-bearing joints such as the hip and knee. Hip OA can cause direct hip osteoarthritis, as well as abnormal pelvic floor loads leading to gait and deformity, and can lead to complete PTD.

Osteoporosis: Associated with decreased bone temperature and increased risk of fractures. Vertebral compression fractures may lead to disruption of posture and pelvic mechanics.

Postural Changes and Biomechanical Stress: Recovery from menopause can cause muscle weakness, weight gain, and musculoskeletal issues, changes in posture, and abnormal biomechanical stresses on the pelvic region and hip joints. This can trigger or worsen both PTD and hip pain.

Changes in pain perception: Hormonal changes and chronic disease may reduce pain by increasing central and peripheral pain sensitivity and facilitate the development of chronic pain syndromes.

Clinical Evaluation and Management:

During menopausal fluid intake and/or PTD, hormonal status, musculoskeletal issues, and pelvic floor capacity are addressed holistically. Treatment therapies may include hormone replacement therapy (HRT) options (local or systemic, in appropriate candidates), pelvic floor regulation, lifestyle changes (weight loss, exercise), and pain therapy combined with integrative therapy for underlying musculoskeletal pathologies. A multidisciplinary approach usually yields good results.

5. EVALUATION METHODS

5.1. Comprehensive Anamnesis and Physical Examination

The first and most important step in the assessment of whether it can be fragmented with pelvic floor dysfunction (PTD) is to collect a comprehensive anamnesis (medical reading) from the patient, followed by a detailed physical examination. These two presented, potential etiological factors play a critical role in understanding the nature of the pain, whether it has episodes and whether it affects the quality of life. This information is the basis for reaching a correct diagnosis and creating an effective treatment plan.

A. Comprehensive Anamnesis and Patient History

The basic headings that should be questioned in the anamnesis are:

1. Detailed Description of Pain Complaint:

Localization: Where exactly is the pain felt? (Ex: groin, side of hip, coccyx, deep pelvic area). Single or double?

Onset: When and how did the pain begin? (Sudden, gradual, following a trauma or event?)

Duration: How long does the pain last? (Acute, subacute, chronic)

Character: What is the pain registered as? (Sharp, dull, burning, stabbing, cramping, throbbing, etc.)

Intensity: How is the pain intensity (a scale of 0-10 can be used)? Does it change during the day?

Timing and Frequency: Is the pain constant or intermittent? At what times of day or with what activities does it increase/decrease?

Radiation: Does the pain radiate to other areas? (Legs, waist, abdomen, etc.)

Increasing Factors: What situations or activities increase the pain? (Ex: sitting for a long time, walking, sexual intercourse, body movements, recovery, certain movements, menstrual period)

Relieving Factors: What situations or activities reduce pain? (Ex: rest, certain settings, heat application, systems)

Previous Treatments: What treatments have been tried for pain before and what were the results?

2. Associated Pelvic Floor Dysfunction Symptoms:

Urinary Symptoms:

Incontinence: Stress (coughing, sneezing, laughing and urgency), urge (sudden urgency and urgency), mixed cue.

Frequent standing for the sake of necessity (pollakiuria), waking up during the night (nocturia).

Feeling of difficulty doing intervals, interruptions, and not emptying completely.

Pain or burning during urination (dysuria).

Intestinal Symptoms:

Constipation (constipation), straining during defecation.

Fecal incontinence (leaking of gas or liquids).

Pain during defecation.

I couldn't empty it completely.

Irritable Bowel Syndrome (IBS) like monarch.

Sexual Dysfunctions:

Dyspareunia: Painful sexual intercourse, superficial or deep.

Vaginismus: Involuntary contraction of the vaginal muscles and difficulty with penetration.

Orgasm problems, decreased sexual desire.

Pelvic Organ Prolapse (POP) Symptoms:

A feeling of fullness or pressure in the vagina.

Feeling or seeing a mass protruding from the vagina.

It is a feeling of heaviness or pelvic heaviness.

3. Obstetric and Gynecological History:

Pregnancies and Births: How many pregnancies, how many births? Type of birth (vaginal, cesarean, use of forceps/vacuum), history of tearing or episiotomy during birth, birth weight, changes after birth.

Menstrual Cycle: Is it regular? Are there painful menstruations (dysmenorrhea), excessive bleeding (menorrhagia)? History of endometriosis.

Menopause Status: If she has entered menopause, when? Where does hormone replacement therapy fit in?

Gynecological Diseases: Endometriosis, PID, ovarian cysts, myomas, past gynecological center.

Gynecological Surgery History: Hysterectomy, oophorectomy, pelvic reconstructive surgeries, etc.

4. Other Previous Surgery and Medical Conditions:

Other surgeries involving the abdomen or pelvis (appendectomy, hernia surgery, etc.).

Operations performed on the waist or hips.

Chronic disease (diabetes, persistent infection, rheumatic transmission).

History of trauma (pelvic fracture, fall, etc.).

5. Lifestyle and Psychosocial Factors:

Economic Activity Level: Do you exercise regularly? Types of exercise have been done.

Occupation: Do you have a partial job that involves sitting or standing for long periods of time? Heavy lifting.

Nutrition and Fluid Habits: There may be factors affecting constipation or the bus.

Stress Level, Anxiety, Depression: There is a close relationship between chronic pain and psychological factors.

Sleep Quality.

Smoking and Alcohol Use.

6. Patient Expectations and Treatment Goals:

What the patient wants to achieve with treatment, the effects of pain and other services on quality of life.

A comprehensive history will help narrow down possible clinical diagnoses, plan appropriate physical examinations and diagnostic tests, and guide the development of an individualized treatment approach. Standardized questionnaires (eg, Pelvic Pain, Urge, Incontinence Scale - PAUIS; Pelvic Floor Dysfunction Questionnaire - PFDI) and pain diaries can also be used to support the history.

B. Physics

Following a detailed history, a comprehensive physical examination is performed in the evaluation of patients with PTD and hip osteoarthritis. The physical examination helps to determine the schedule of pain, to determine the presence and type of PTD, and to identify musculoskeletal problems or problems that are not part of the body.

Physical Structure:

1. General Observation and Posture Analysis:

The patient's general posture (standing, sitting) is examined. Postural deviations such as pelvic tilt (anterior/posterior tilt), lumbar lordosis, thoracic kyphosis, and scoliosis are not taken into account.

Asymmetries, muscle atrophy or hypertrophy are observed.

2. Gait Assessment:

The patient's gait pattern is examined. Abnormalities such as limping, inequality of step length, pelvic instability (Trendelenburg sign).

3. Lumbar Region Examination:

The range of motion of the Lumbar Spine (flexion, extension, lateral flexion, rotation) is used.

Tenderness, spasm, or trigger points are palpated in the paravertebral muscles.

Comprehensive special tests (straight leg stretching test, femoral stretching test, etc.) are performed.

4. Sacroiliac Joint (SIJ) Examination:

Tenderness is sought by palpation over the SIJ.

Initiation of SIJ-induced pain with provocation tests (e.g. FABER test, Gaenslen test, shear push test).

5. Hip Joint Examination:

Active and passive range of motion (flexion, extension, abduction, adduction, internal and external cycle) of the hip support is used. No pain, limitation or crepitation occurs.

Strength and training of the hip spherical muscles (gluteals, piriformis, iliopsoas, adductors, hamstrings, quadriceps).

Special tests for hip adduction (e.g. FADIR test, Stinchfield test, Thomas test) may be performed.

The hip space bursae (trochanteric, ischiogluteal) are searched for palpable distance.

6. Pelvic Floor Brow (PFB) Evaluation:

This assessment can be done both externally and internally (vaginally and/or rectally). It is essential that the patient is disengaged and relaxed.

External Information:

Examination of the perineal area: Skin condition, scar tissue, color change, swelling, signs of prolapse (with straining) are observed.

Palpation of the perineal muscles (bulbocavernous, ischiocavernous, superficial transverse perineal) and anal sphincter with application to tone, tenderness and trigger points.

The presence of stress urinary incontinence can be observed with a cough test.

Internal Evaluation (Vaginal/Rectal Examination):

Examination: The tone of the vaginal walls, the health of the mucosa, the presence of sagging (POP-Q system is available) are available.

Palpation:

Eyebrow Tone: Using the resting tone (normotonic, hypertonic, hypotonic) of the PTK. Especially the levator ani muscles (puborectalis, pubococcygeus, iliococcygeus) and the obturator internus muscle are palpated.

Muscle Strength and Endurance: The patient is asked to tighten their PTCs (Kegel exercise). The strength of the contraction (e.g. Oxford scale 0-5), duration (endurance) and repeatability are used.

Relaxation Ability: After contraction, complete relaxation and relaxation of the PTK is checked. Impairment in relaxation ability may indicate hypertonicity.

Coordination: The patient is observed to use their PTCs during functional activities such as coughing and straining.

Tenderness and Trigger Points: Look for tender points or myofascial trigger points on the PTCs and fast fascia. It is important if palpation of these points triggers chronic pain.

Coccyx (Tailbone) Mobilization: If there is coccyxitis (coccydynia), the mobility and sensitivity of the coccyx is lost.

7. Neurological Examination:

Sensory examination: Signs of light touch, pain and temperature sensation in the perineum, legs and padding (especially pudendal nerve dermatomes).

Motor examination: Integration of lower extremity muscle strength.

Reflexes: Patellar, Achilles and bullocavernosus reflexes (if necessary) are checked.

8. Abdominal Examination:

There were abnormalities in the abdominal muscles (diastasis recti, trigger points) and internal organs (tenderness, mass) and it was not used.

The treatment plan is shaped by combining physical examination with anamnesis information and going to differential diagnosis. It is ethically imperative that the patient be comfortable, informed and given consent during the examination.

5.2. Imaging Methods

Intelligent diagnostic process can be done with comprehensive anamnesis and physical examination, pelvic floor dysfunction (PTD) and hip strip. However, some variability, delaying diagnosis, clarifying different vision, detecting various structural pathologies or directing treatment can be resorted to by directing methods.

Commonly Used Imaging Methods and Indications:

1. Direct Radiography (X-ray):

Hip and Pelvis Radiographs: Can be used to demonstrate bony pathologies such as hip joint osteoarthritis, avascular necrosis of the femoral head, stress fractures, bone tumors, or traumatic injuries.

Lumbar Spine Radiographs: If the spine is lumbar, they may be requested to exclude conditions such as degenerative disc disease and spondylolisthesis.

Advantages: Fast, inexpensive and widely available.

Disadvantages: Inadequate in showing soft tissues (muscles, tendons, ligaments, nerves) and pelvic floor structures.

2. Ultrasonography (USG):

Transabdominal USG: It can be used for general examination of the abdominal organs (bladder, uterus, ovaries). It provides information about bladder fullness, large myomas or ovarian cysts.

Transvaginal/Transrectal USG (Endocavitary USG): Provides more detailed evaluation of pelvic organs such as the uterus, ovaries, fallopian tubes. It is valuable in the diagnosis of gynecological pathologies such as suspicion of endometriosis (especially deep infiltrative endometriosis, endometriomas), PID complications (tubo-ovarian abscess), myomas, ovarian cysts.

Transperineal USG (Dynamic Pelvic Floor USG): Used to see the dynamic analysis of the pelvic floor muscles and pelvic organs. It is especially useful in determining the degree and type of pelvic organ prolapse (cystocele, rectocele, uterine prolapse), detecting levator ani muscle injuries (avulsion), and evaluating the integrity of the anal sphincter. Images are taken during the patient's rest, contraction (Kegel) and straining (Valsalva) maneuvers.

Musculoskeletal USG: It can be performed for hip tendons (gluteal tendons, hamstring proximal tendon), bursa (trochanteric bursa) and muscle pathologies (tear, tendinopathy, bursitis). It can help visualize the nerve in nerve loosening (such as piriformis syndrome).

Advantages: It offers non-invasive, invasive, dynamic evaluation, and is inexpensive.

Disadvantages: It is operator dependent and does not show deep tissues and bone structures as well as MRI.

3. Magnetic Resonance Imaging (MRI):

Pelvic MRI: Provides detailed anatomic visualization of the pelvic organs, pelvic floor muscles, ligaments, fasciae, and nerves. Valuable in investigating the underlying causes of PTD (e.g., levator ani muscle defects, suspected pudendal nerve compression, endometriosis foci, pelvic congestion syndrome).

Hip MRI: Hip fractures Fractures (labrum tear, cartilage damage, avascular necrosis) and fracture (tendinopathies, muscle tears, bursitis, stress fractures, tumors) pathologies are shown with high strength. It can be used to evaluate the compression of the sciatic nerve or other peripheral nerves.

Lumbar MRI: If you are planning to have low back pain and radiculopathy, it is indicated to detect problems such as disc herniations, spinal stenosis, nerve root compression.

MRI Defecography/Dynamic Pelvic MRI: Similar to transperineal USG, it is used for dynamic evaluation of pelvic organs and anorectal capacity. It is especially useful in complex prolapses and disabilities (obstructive defecation).

Advantages: Excellent soft tissue contrast, multi-planar spreading, no spreading.

Disadvantages: Expensive, may not be available everywhere, long extraction time, claustrophobia problem, continuity of the metal implant are contraindications.

4.Computed Tomography (CT):

It is not the first choice method for routine evaluation of chronic PTD or chronic hip pain.

Present in acute trauma (pelvic fractures), bone tumors or diseases (osteomyelitis), certain intra-abdominal pathologies (appendicitis, diverticulitis) or where MRI is contraindicated.

Advantages: Fast, shows bone details well.

Disadvantages: Contains radiation, soft tissue contrast is lower than MRI.

Selection of Display Method:

The choice of imaging method is determined by the preservation, history and physical examination, suspected pathology and the advantages/disadvantages of the method. Most of the time, it should be interpreted together with the live clinical picture. The possibility of normal imaging does not exclude functional ones such as PTD or myofascial pain.

5.3. Electrophysiological Tests and Other Auxiliary Diagnostic Tools

In addition to anamnesis, physical examination and monitoring methods, there are also some electrophysiological tests and other auxiliary tools in the diagnosis and differential diagnosis of pelvic floor dysfunction (PTD) and hip memory. These tests play an important role in the evaluation of the pelvic floor muscles and sphincters as a functional lens and in the guidance of rehabilitation, especially when there is a suspicion of nerve damage or dysfunction.

1. Electrophysiological Tests:

Electromyography (EMG):

Superficial EMG (sEMG): It measures the magnetic separation of the pelvic floor muscles (PTM) through electrodes placed on the skin. It is used to see the resting tone of the muscles, activation during contraction (Kegel), relaxation flexibility and wear. It is also widely used for biofeedback in pelvic floor compliance. It is non-invasive.

Needle EMG: A fine needle electrode is inserted into the muscle to assess the classification of individual motor units. It provides more detailed information, especially when there is suspicion of nerve damage (signs of denervation, reinnervation) or myopathy. It can be used to assess the anal sphincter or other PTCs. An invasive method.

Nerve Conduction Studies (NCS):

Measures the generality and strength of response of peripheral nerves (e.g., pudendal nerve, sciatic nerve) to electrical stimuli. May help determine the location and severity of nerve damage (axonal loss, demyelination). May be used to diagnose pudendal neuropathy or other nerve compression syndromes.

Pudendal Nerve Terminal Motor Latency Test (PNTML):

It measures the distribution of the distal part of the pudendal nerve. The pudendal nerve was stimulated rectally or vaginally to elicit responses from the anal or urethral sphincter. It can be used easily, especially in those with

suspected fecal incontinence or pudendal neuropathy. However, there is some controversy regarding the standardization and interpretation of the test.

Somatosensory Evoked Potentials (SEP): Electrical responses in the brain or spinal cord are collected when peripheral nerves (e.g., pudendal nerve) are stimulated. Used to assess the integrity of sensory pathways.

2. Urodynamic Studies:

It includes a group of tests that objectively evaluate bladder and production functions (storage and voiding). It is particularly indicated in patients with lower urinary tract changes such as urinary incontinence, voiding difficulties, overactive plants. Basic Urodynamic Tests:

Uroflowmetry: Voiding Rate and Pattern Licensed.

Postvoid Residual (PVR) Measurement: The amount of voided urine remaining in the recording (especially with ultrasound).

Cystometry: Pressure-volume relationships during bladder filling, position adjustments, storage capacity and compliance. Detrusor overactivity or decreased compliance may be detected.

Pressure-Flow Study:Simultaneous measurement of stored and urethral pressures during voiding to assess obstruction or impaired detrusor contractility.

Video-Urodynamics: Anatomical and functional information is added during fluoroscopic imaging during urodynamic tests.

3. Anorectal Function Tests:

It is especially used in outlet functions such as fecal incontinence, chronic constipation or obstructive defecation syndrome.

Anorectal Manometry: Measures resting and squeeze pressures of the anal sphincters, rectoanal inhibitory reflex (RAIR), rectal fluid and compliance.

Balloon Expulsion Test: It is an objective image of rectal discharge.

Defecography (Conventional, MRI or CT): Provides dynamic imaging of the pelvic floor and anorectal region during defecation. It can show structural abnormalities such as rectocele, intussusception, enterocele and functional dysfunction (such as anismus).

4. Diagnostic Injections (Blocks):

Local anesthetic (sometimes combined with corticosteroid) fillings may be performed to determine the source of the pain or to alter the contribution of a particular nerve or source to the pain.

Examples:

Pudendal Nerve Block: To support the diagnosis of pudendal neuralgia and maintain recovery.

Piriformis Muscle Injection: In cases of suspected piriformis syndrome.

Intra-Hip Joint Injection: To maintain the intra-articular problem.

Sacroiliac Joint Injection: To confirm pain originating from SIJ.

Trigger Point Injections: In myofascial pain syndromes.

If there is a significant decrease in pain after division, that area is thought to be contributing to the pain.

5. Pain Mapping and Quantitative Sensory Testing (QST):

Pain Mapping: The patient is arranged to mark the painful parts on a body program. It provides information about the spread and character of the pain.

QST: Provides sensory effects such as temperature and tolerance by delivering temperature-controlled thermal (hot, cold) or mechanical (pressure, vibration) stimuli. Can be helpful in the evaluation of neuropathic or pain center sensitization processes.

The selection and interpretation of these auxiliary diagnostic tools can be made by the specialist physician according to the presented clinical picture and the suspected pathology. Each test has its own indications, numbers and limitations.

6. TREATMENT APPROACHES

6.1. Conservative Treatment Methods

6.1.1. Pelvic Floor Rehabilitation and Exercises

Pelvic floor harmony (PTR) is an important conservative treatment method for treating various pelvic health problems in order to break pelvic floor dysfunction (PTD) and related problems. PTR aims to optimize the functions of the pelvic floor muscles (PTM), reduce pain and increase the characteristics of life from each other. It is applied by physiotherapists who are not common in this field.

Goals of Pelvic Floor Rehabilitation:

Increases the amount of PTK.

Ensuring PTD strength, endurance and coordination (in hypotonic PTD cases).

To relax overactive or hypertonic PTDs and restore normal resting tone (in cases of hypertonic PTD).

Relieves myofascial trigger points and muscle spasms.

Teaching proper posture and body mechanics.

To provide pain management.

Educating the patient about his or her condition and improving self-management abilities.

Components and Exercises of Pelvic Floor Rehabilitation:

1. Patient Education:

Pelvic floor anatomy and capacity.

The general and responsible effects of PTD.

Agri Network.

Strategies for bladder and outlet health (e.g., voiding occasionally, proper rearing technique, fluid and fiber intake).

Information about factors that increase or decrease pain.

The importance of home exercise.

2. Manual Therapy Techniques:

Soft Tissue Mobilization: Massage, stretching and myofascial release techniques for PTC and fascial muscles (e.g. obturator internus, piriformis, adductors, iliopsoas).

Trigger Point Therapy: Relaxation of the muscle by applying pressure to painful, tight bands (trigger points) or other techniques (e.g. dry needling – as appropriate).

Scar Tissue Mobilization: Mobilization techniques for episiotomy, cesarean or other pelvic surgery scars.

Visceral Mobilization: Gentle techniques to increase mobility of the pelvic organs (especially if adhesions are suspected).

Joint Mobilization/Manipulation: Techniques to correct movement limitations in the sacroiliac attachments, coccyx, or lumbar spine.

3. Therapeutic Exercises:

Pelvic Floor Muscle Exercises (Kegel Exercises):

Purpose: To increase the strength, durability and control of PTK, especially in cases of hypotonic PTD (stress incontinence, mild prolapse).

Technique: Isolate and contract the correct muscle (as if holding urine or gas), hold for a certain period of time, and then relax completely. Care is taken not to use the wrong muscles (abdomen, hips, inner thighs).

In cases of hypertonic PTD and pelvic pain, caution should be exercised or relaxation-focused exercises should be practiced first, as Kegel exercises may worsen the condition.

Pelvic Floor Relaxation Exercises (Reverse Kegel/Dropping the Pelvic Floor):

Purpose: To provide appropriate relaxation of the PTC, especially in cases of hypertonic PTC, pelvic pain, dyspareunia and urination/defecation difficulties.

Technique: Downward extension, lengthening and relaxation of the pelvic floor accompanied by deep diaphragmatic breaths. Visualization techniques are available.

Coordination Exercises: Ensures that the PTK contracts and relaxes at the right time and to the right extent during functional activities (coughing, sneezing, bending, standing).

Posture and Body Mechanics Exercises: Maintaining the correct posture, maintaining the spine and pelvis neutral, reducing the load on the pelvic floor and hips during daily life activities (sitting, standing, bending, carrying).

Stretching Exercises: Exercises to lengthen short and tight muscles in the hip area (piriformis, adductors, hamstrings, iliopsoas), waist and pelvic areas.

Strengthening exercises: Flexibility of the muscles that contribute to pelvic stability, such as the core muscles (transversus abdominis, multifidus), hip muscles (gluteals, abductors).

Neurodynamic Movements (Nerve Mobilization): Gentle movements to increase movement of nerves (e.g., sciatic, pudendal) and release relaxation.

4. Biofeedback:

Signals are converted into visual or operational signals by the PTK, helping the brain to better recognize and control its muscles.

Surface EMG (sEMG) or pressure sensors (vaginal/rectal probes) are available.

It is available for both contracting (Kegel) and relaxing (Reverse Kegel) muscles.

5. Electrical Stimulation:

Low voltage electrical currents are available to passively contract the PTCs (hypotonic disruption) or to modulate pain (such as TENS).

The PTR program is personalized to the individual's property, market and practice. The treatment process is usually individual and separate, from several weeks to several months, with active participation and continuation of each exercise being the key to success. PTD performance along with hip safety should be achieved with integrated treatments focused on the PTR trunk.

6.1.2. Manual Therapy Techniques

Manual therapy is an effective therapy frequently used by physiotherapists to achieve pelvic floor dysfunction (PTD) and treat hip attachment, especially in cases of problems originating from the musculoskeletal system. These techniques involve various manipulations and mobilizations applied by hand and minimize the pain of the features, increase tissue mobility, normalize muscle tone and determine overall function.

Main Manual Therapy Techniques Used for Pelvic Floor and Hip Pain:

1. Soft Tissue Mobilization and Myofascial Release:

Purpose: To relieve tensions, adhesions and restrictions in muscles, fascia and connective tissues.

Techniques:

Massage Techniques: Various massage techniques such as superficial and deep stroking (scratching), friction (circular rubbing), petrissage (kneading) are applied to the pelvic floor muscles (both external and internal approaches – with appropriate training and consent), the muscles directed towards you (gluteals, piriformis, obturator internus, adductors, hamstrings, iliopsoas), and the lumbar muscles.

Myofascial Release (MFR): Techniques that target the limitations in the fascial system, applying slow and continuous pressure or stretching. In this case, it provides permanent relaxation by utilizing the viscoelastic solution.

Strain-Counterstrain: This allowed me to achieve a zero-reset goal by not passively shortening the muscle where the tender points (tender points) were located.

2. Trigger Point Treatment (Trigger Point Treatment):

Purpose: To treat local and referred pain caused by myofascial trigger points (TrP), which are hypersensitive, taut bands in the muscle body.

Techniques:

Ischemic Compression: Trigger distribution is achieved by applying direct and continuous pressure, temporarily reducing local blood flow and then releasing it, resulting in reactive hyperemia and relaxation.

Deep Percussion Massage/Friction: Deep massage along or over a trigger point.

Positional Relaxation (Positional Release): Allows the most comfortable and accessible position of the muscle where the trigger point is located to be relaxed.

Dry Needling: By inserting a thin filiform needle with a trigger, a local twitch reaction (local twitch response) is obtained, aiming to relax the muscle and relieve pain (this technique requires special training).

3. Joint Mobilization and Manipulation:

Purpose: To restore normal range of motion and mechanics of joints with limited mobility (sacroiliac joints, coccyx joints, lumbar spine, hip joints).

Techniques:

Mobilization:Passive movements can occur within rhythmic limits of joint movements or accessory movements. Grade I-IV mobilizations are used.

Manipulation (Thrust Techniques/HVLA - High Velocity Low Amplitude): The distribution of the apparent range of motion of the joint is achieved by applying a quick, short thrust to separate the joining surfaces and interrupt the movement (Grade V). These techniques require careful evaluation and appropriate termination.

4. Nerve Mobilization (Neurodynamic Techniques):

Purpose: To minimize the mechanical sensitivity of peripheral nerves (e.g., sciatic nerve, pudendal nerve, obturator nerve), to allow the nerves to slide within the surrounding tissues, and to determine the nerve blood flow.

Techniques: Gentle stretching and sliding (sliding/sliding) or stretching (stretching) maneuvers are applied along the borderline. Attention is paid to the provocation of symptoms and is applied according to the tolerance of retention.

5. Visceral Mobilization/Manipulation:

Purpose: Determine the mobility and function of pelvic and abdominal organs (bladder, uterus, rectum, etc.) and surrounding fascial connections. It may be useful, especially after surgery, for adhesions or chronic inflammatory proliferations.

Techniques: Gentle, specific manual techniques are applied to the organs.

6. Scar Tissue Mobilization:

Purpose: To increase the flow of scar tissue formed after surgery (cesarean section, episiotomy, laparoscopy) or trauma, to dissolve structure lights and to reduce pain.

Techniques: Various massage, stretching and lifting techniques are applied to and around the scar.

Manual therapy techniques are usually applied as part of a comprehensive treatment plan, along with patient education, therapeutic exercises, and other modalities. Which techniques are continued is individualized based on the characteristics and treatment determined by detailed evaluation results. In particular, if internal pelvic manual therapy is to be applied (vaginally or rectally), the patient must have fully informed consent and be given the opportunity to relax and be confidential during the procedure.

6.1.3. Patient Education and Lifestyle Changes

Patient education and lifestyle changes are critical features of management, reliable temperature, and long-term improvements in pelvic floor dysfunction (PTD) and related hips. Patient knowledge of their condition encourages therapeutic activity and helps control by improving self-management skills.

Essential Elements of Patient Education:

1. Pelvic Anatomy and Physiology Information:

Location, structure and capacity of the pelvic floor muscles (PFM) (support, sphincteric control, sexual function, stabilization).

Anatomy of the hip joints and globe muscles and their relationship to the pelvic floor.

*Normal urination and replacement.

2. Understanding the Condition (PTD and Hip Pain):

Explanation of the patient's specific type of PTD (hypotonic, hypertonic, discoordination) and causes of hip girdle.

Explanation of pain syndrome (nociceptive, neuropathic, nociplastic/central sensitization) in simple language.

Information about what causes symptoms and how they may worsen or improve.

Elimination of false beliefs and fears.

3. Pain Management Strategies:

Importance of keeping pain diaries (degree of pain, timing, triggers).

Determining activities that increase and decrease pain.

Relaxation techniques (deep breathing exercises, progressive muscle relaxation, horizontal/mindfulness).

Simple pain relief such as hot/cold applications.

Activity organization and pacing (planning activities tolerably).

4. Self-Care and Home Exercise Program:

Correct technique and importance of pelvic floor exercises taught (Kegel, reverse Kegel, coordinated).

Provides regular rest for stretching and strengthening exercises.

Self-massage or trigger point release techniques (if appropriate).

Lifestyle Change Suggestions:

1. Posture and Body Mechanics:

Correct Posture: Sitting, standing and maintaining neutral development of the spine and pelvis.

Ergonomic Arrangements: Proper ergonomic relationships can be provided in the work environment (chairs, desk arrangement), at home and in operating the car.

Proper Lifting and Carrying Techniques: Minimize the load on the pelvic floor and lower back by bending the knees, keeping the back straight, and carrying the load close.

2. Bladder and Bowel Habits:

Fluid Intake: Consume adequate amounts of water (usually 1.5-2 litres per day), but avoid or reduce irritating fluids (caffeine, alcohol, acidic drinks).

Timed Voiding: Going to the toilet at intervals, especially in urge incontinence.

Correct Urination Position: Sitting in a comfortable place with the feet flat on the floor and completely emptying the area.

Avoid Straining: Avoid overheating (damaging the pelvic floor) while urinating or straining.

Fibrous Diet: Adequate life intake and regular exit movements to prevent constipation.

Correct Defecation Position: Pulling the feet up onto a stool (similar to squatting positions) allows the puborectalis muscle to relax and the rectum to straighten.

3. Sexual Health:

Changing the consequences of dyspareunia (painful intercourse) through the use of lubricant and open communication with the partner.

Positive effect of pelvic floor relaxation exercises on cellular functions.

4. Exercise and Exercise:**

Encouraging pelvic floor exercises (swimming, walking, cycling – with a suitable saddle).

Avoiding or modifying high-impact (high-impact) or increasing movements.

Maintaining core muscles and overall body strength.

5. Stress Management:

Knowledge that stress can increase pelvic floor muscle tension and pain.

Learning and practicing stress reduction techniques (yoga, exercise, tai chi, hobbies).

6. Clothing:

Wearing very tight clothing (especially in the waist and groin area) will negatively affect the pelvic area and comfort.

7. Weight Management:

Information that excess weight can put additional strain on the pelvic floor and hip joints and worsen their capacity.

Patient education and lifestyle changes are part of the healing process and can help maintain long-term success by providing active representation that promotes healing. These recommendations should be tailored to the individual and the individual's needs.

6.2. Interventional Treatment Methods

Interventional treatment methods have an important place in the management of pelvic floor dysfunction (PTD) and financial supporter as options that can be tried before more invasive surgical interventions or in cases where there is insufficient response to conservative treatments (physiotherapy, systems, lifestyle disruption). These errors are usually applied with the aim of reducing pain, controlling its report, promoting tissue healing or modulating nerve cables.

6.2.1. Injection Treatments

Injection treatments are minimally invasive procedures frequently used in PTD and hip care. Their goal is generally to reduce pain, control the number of lesions, and promote tissue healing.

Main Injection Treatments Used for Pelvic Floor and Hip Pain:

1. Trigger Point Injections (TPI):

Purpose: To relieve pain and muscle spasm due to myofascial trigger points in the pelvic floor muscles (e.g. levator ani, obturator internus, coccygeus) or muscles in the hip regions (e.g. piriformis, gluteals, adductors).

Application: Trigger local anesthetic (e.g. lidocaine, bupivacaine), sometimes corticosteroid or just saline (dry needling-like effect) is applied. It can be done under ultrasound or EMG guidance.

Benefits: Decreased local pain and tenderness, muscle relaxation, increased range of motion.

2. Nerve Blocks:

Purpose: to temporarily block a changing nerve or nerve boundaries to relieve pain (diagnostic purpose) or to provide pain relief with long-term rest (therapeutic purpose).

Application: Usually under imaging (ultrasound, fluoroscopy, CT) guidance, local anesthetic and/or corticosteroids are administered close to the target nerve.

Commonly Used Nerve Blocks:

Pudendal Nerve Block: Pudendal neuralgia, chronic pelvic pain, vulvodynia, coccydynia are increased. It is expanded along the course of the pudendal nerve (near the ischial spine, Alcock canal).

Obturator Nerve Block: Used for adductor muscle spasms, groin pain and pain originating from the hip joints (especially hip osteoarthritis).

Sciatic Nerve Block: Can be performed around the piriformis muscle or near the sciatic nerve to minimize pain due to sciatic nerve irritation, such as piriformis syndrome.

Ilioinguinal/Iliohypogastric Nerve Block: It is used for chronic pain after inguinal hernia surgery or groin pain due to relaxation of these nerves.

Ganglion Impar Block: Targets pain originating from the sympathetic nervous system in coccyx (tailbone pain) and perineal pain.

3. Intra-articular and Periarticular Injections:

Purpose: To minimize treatment and pain in the joint.

Application: Local anesthetic and/or corticosteroids are applied to structures such as bursae, tendons, or the joint (intraarticular) via imaging guidance.

Commonly Used Joint Injections:

Hip Joint Injection: To reduce pain and swelling of the change such as hip osteoarthritis, labrum tears, femoroacetabular loosening syndrome.

Sacroiliac Joint Injection: It is intended for both diagnosis and treatment of low back, hip and leg pain due to sacroiliitis or sacroiliac joint dysfunction.

Pubic Symphysis Injection: Applied as in symphysis pubis dysfunction or osteitis pubis.

Bursa Injections: Injections into commonly inflamed bursae such as trochanteric bursitis and ischiogluteal bursitis.

4. Regenerative Injection Treatments:

Purpose: To promote the repair of damaged tissues (tendons, ligaments, cartilage) by stimulating the body's own healing mechanisms.

Application: It is usually recorded on damaged areas under ultrasound guidance.

Types:

Prolotherapy (Proliferative Therapy): The aim is to induce a local inflammatory response in which an irritant solution (usually dextrose) is to replace weakened or damaged ligaments and tendons with respect to the bone, thereby stimulating collagen production and tissue repair. It is available in chronic lumbar and sacroiliac joint pains, and tendinopathies.

Platelet Rich Plasma (PRP) Injections: Transforming the plasma obtained from the patient's own blood, enriched in platelets and growth factors, into damaged tissue. It is used to accelerate healing and minimize pain in tendinopathies (gluteal tendinopathy, hamstring tendinopathy), osteoarthritis and muscle injuries.

Stem Cell Treatments: (More in the research phase and applied in certain centers) Regional recording of stem cells obtained from the patient's own bone marrow or fat tissue.

5. Botulinum Toxin (Botox) Injections:

Purpose: To reduce muscle spasm and pain by temporarily modifying overactive or spastic muscles (e.g., pelvic floor muscles, piriformis).

Application: Usually recorded on target muscles under EMG or ultrasound guidance. There are augmentations such as pelvic floor hypertonia, piriformis syndrome, chronic pelvic pain.

Injection therapies should generally be considered as part of a multidisciplinary pain management program. The increased audibility and amplification achieved following injection may enable a variety of physiotherapy and participation to be delivered more effectively. The potential benefits, risks and appropriate patient selection of each replacement technology should be evaluated.

6.2.2. Neuromodulation Techniques

Neuromodulation is a commercial treatment approach that uses electrical or chemical agents to modulate or alter the nervous system structure. It may offer promising results in chronic pain syndromes, especially in cases resistant to other treatments, such as those that are common in voiding and proliferation.

Main Neuromodulation Techniques Used in Pelvic Floor and Hip Pain:

1. Sacral Neuromodulation (SNS) / Sacral Nerve Stimulation:

Purpose: It regulates the pelvic floor functions and reduces chronic pelvic pain by stimulating the sacral nerves (usually S3) with low voltage electrical currents.

Application: It is a two-procedure procedure. In the first stage, a temporary electrode is placed in one of the sacral foramina under fluoroscopic guidance and connected to an external test stimulator. If >50% improvement is observed over a test period of several weeks, in the second stage, a permanent implantable pulse generator (IPG) (battery) is placed on the skin card (usually in the legs or abdomen).

Indications:Resistant overactive, non-obstructive urinary retention, fecal incontinence, chronic pelvic pain, interstitial cystitis/painful treatment therapy.

Mechanism of Action: Although not fully understood, it is a condition created by pain and sensory modules in the spinal cord and brain, in which abnormal reflexes are prevented and pelvic organ functions are established.

2. Peripheral Nerve Stimulation (PNS):

Purpose: To stop or modulate pain relief by directly stimulating the peripheral nerves specific to the cause of pain (e.g., pudendal nerve, posterior tibial nerve, sciatic nerve) or nerve branches close to the painful area.

Application: Thin electrodes are placed near the target nerve or painful area under ultrasound or fluoroscopy guidance and connected to an external or implantable stimulator.

Types:

Posterior Tibial Nerve Stimulation (PTNS): Percutaneous (with needle electrodes) or transcutaneous (with surface electrodes) stimulation of the posterior tibial nerve, which courses on the inside of the ankle. Used in overactive conditions, fecal incontinence, and some pelvic pain conditions. It is thought to have an indirect sacral neuromodulatory effect because it originates from the same spinal segments as the sacral nerves.

Pudendal Nerve Stimulation: Can be used in refractory pudendal neuralgia and chronic perineal pain.

Other Peripheral Nerves: Depending on the localization of the pain, other peripheral nerves can also be targeted.

3.Transcutaneous Electrical Nerve Stimulation (TENS):

Purpose: To block painkillers from reaching the spinal cord and brain by sending low-voltage electrical currents through electrodes placed on the skin (gate control theory) or to increase the release of the devices' own painkillers (endorphins).

Application: A portable, battery-operated device and electrodes that can be glued on are used. It can be applied by the patient at home. It has different frequency and distribution settings.

Indications: Used to provide symptomatic relief in a variety of chronic and acute pain conditions, including PTD and hip sling. Recommended as an adjunct to other treatments.

Benefits: Non-invasive, easy to use, low side effect profile.

4. Intrathecal Drug Pumps:

Purpose: For patients with severe chronic pain unresponsive to other treatments, weanable, low-dose analgesics (usually opioids, local anesthetics, or other agents) may be administered directly into the spinal fluid (intrathecal injection) via an implantable pump.

Application: A surgically implanted pump and a storage system that extends into the spinal fluid. Provides more effective pain control with fewer systemic side effects.

Indications: Considered as last resort for persistent cancer pain or severe chronic nonmalignant pain refractory to other treatments.

Neuromodulation techniques can play an important role in the care of PTD and its hips, especially in chronic and refractory cases. The appropriate technique should be decided by a multidisciplinary team, considering the specific condition, its extent, its solution to previous treatments and the potential risk/benefit assessment results.

6.3. Multidisciplinary Approach and Holistic Treatment Strategies

Pelvic floor dysfunction (PTD) and its component are complex and multifactorial conditions. Therefore, it is of great importance to adopt a **multidisciplinary approach** in which a single unified treatment method is not sufficient in diagnosis and treatment, but rather a holistic treatment system that treats the patient as a whole, where units from different disciplines cooperate.

Importance of the Multidisciplinary Team and Its Members:

An ideal multidisciplinary team for the evaluation and management of patients with PTD and hip pain typically includes the following details:

1. Gynecologist/Urogynecologist: They are creatures of the female reproductive system and pelvic organ prolapse, urinary incontinence.

2.Urologist: Specialist in male and female urinary system diseases, spatial dysfunctions and male sexual health problems.

3. Colorectal Surgeon/Proctologist: Deals with bowel dysfunction, anal incontinence, chronic constipation and other anorectal problems.

4. Pain Specialist (Algologist): Works on chronic pain management, pharmacological and interventional pain treatments.

5.Physiotherapist (Specializing in Pelvic Floor Rehabilitation): Plays a key role with evaluation of the pelvic floor muscles, manual therapy, exercise prescription, biofeedback and patient education.

6. Psychologist/Psychiatrist: Provides psychological effects of chronic pain (anxiety, signals, catastrophizing signals), coping techniques, systematic behavioral therapy (CBT) and stress management.

7. Dietitian/Nutritionist: Performs diet effects on output and amount of nutrition, nutritional reduction diets and weight management procedures.

8. Rheumatologist: Evaluates if there are systemic inflammatory conditions or connective tissue diseases.

9. Orthopedist/Physical Therapy and Rehabilitation Specialist: Undertakes the role of diagnosis and treatment of accompanying hip, waist or other musculoskeletal system pathologies.

Goals of the Multidisciplinary Approach:

Comprehensive Diagnosis: It is comprehensive of all dimensions of the problems with evaluations of each discipline in their own distribution.

Individualized Treatment Plan: A treatment protocol tailored to the patient's specific strength and competence.

Addressing All Aspects of Pain: Pain is not only divided into physical, but also psychological, social and emotional components.

Improving Function and Quality of Life: Improving the patient's return to activities of daily living and increasing the overall quality of well-being.

Patient Education and Empowerment: Encouraging the patient to be informed about their condition and to actively pursue treatment.

Components of Holistic Treatment Strategies:

Holistic treatment is the treatment of the patient as a whole, physical, mental and emotional, and the integration of the following parts:

1. Medical Management:

Pharmacotherapy:Painkillers (NSAIDs, opioids – use with caution), muscle relaxants, antidepressants (for neuropathic pain), anticonvulsants.

Interventional Pain Treatments: Injections (trigger point, nerve blocks), neuromodulation techniques.

2. Physical Therapy and Rehabilitation:

Pelvic Floor Rehabilitation: Manual therapy, biofeedback, ambulatory stimulation, Kegel exercises, relaxation exercises.

Hip and Spine Focused Exercises: Strengthening, flexibility, posture correction, core stabilization.

3. Psychological Support and Behavioral Treatments:

Cognitive Behavioral Therapy (CBT): Helps change negative thoughts and behavior patterns related to pain.

Mindfulness-Based Stress Reduction (MBSR): They increase awareness of pain and see acceptance.

Relaxation Techniques: Deep breathing exercises, progressive muscle relaxation.

Sleep Hygiene.

4. Lifestyle Changes:

Diet and Nutrition: Anti-inflammatory diet, adequate living and fluid intake, avoiding irritating foods.

Regular Economic Activity: Increases general condition and provides endorphin release.

Ergonomics: Teaching correct posture and body mechanics.

Regulation of Bladder and Bowel Habits.

5. Complementary and Alternative Medicine (CAM) Methods (Evidence-Based and Cautious Use):

Acupuncture: May help some children with voice control.

Yoga and Tai Chi: Flexibility, balance and mind-body connections can be strengthened.

Massage Therapy: Provides muscle elongation (includes parts from direct application in the pelvic area).

Patient-Centered Care:

Each stage of treatment should be patient-centered. Treatment goals should be determined with the patient, treatment options should be clearly explained, and the patient should be involved in decision making (shared decision making). Regular follow-up and reevaluation of the treatment plan regimen is critical to a successful outcome.

Integrated management of PTD and hip pad requires complex anatomical and functional components between the pelvic floor and hip. The treatment protocol compatible with the arrangement of both parts can be included in more effective relief and expansion of the overall living space.

7.DISCUSSION

In this review, the complex relationship of pelvic floor dysfunction (PTD) with the hip ligament, its etiology, diagnostic methods and treatment method are structured in a simple way. The literature shows that there is a close connection between the pelvic floor muscles and the hip region, both anatomically and biomechanically, and dysfunction in one region will significantly weaken the other.

Key Findings and Significance:

1. Anatomical and Biomechanical Connections: The pelvic floor muscles have fascial connections and common nerve innervation with the hip joints (eg: obturator internus, piriformis, hip adductors). The structures work together in the stability and function of the lumbopelvic-hip complex. A weakness, excessive flexibility or disorganization in the pelvic floor can lead to pain and dysfunction that changes the appearance of load on the hip joint. Similarly, hip pathologies (eg: femoroacetabular loosening, labral tears, hip osteoarthritis) can cause compensatory changes and dysfunction in the pelvic floor muscles.

2. Variety of Etiological Factors: Etiological factors that play a role in the association of PTD and hip girdle are diverse. Birth trauma, birth trauma, chronic constipation, excessive or incorrect exercise, postural fractures, surgical

interventions, inflammatory conditions and lesion disorders can be found among these factors. This association can be seen more frequently, especially due to diseases, hormonal changes and anatomical features of the urogenital system.

3. Diagnostic Difficulties: Differential diagnosis can be difficult due to the association of PTD and shoulder ligament. Patients may present with complaints such as frequent groin pain, deep pocket wallet, perineal pain, sciatica-like, dyspareunia, urinary and fecal urethra. A thorough history, a detailed physical examination (including pelvic floor and hip assessments), and the use of ancillary methods such as comprehensive electrophysiological testing, imaging modalities, and diagnostic models are critical systems for accurate diagnosis.

4. The Superiority of Multidisciplinary and Holistic Approach in Treatment: A single modality is often insufficient for the care of these complex conditions. The best results are obtained with a multidisciplinary approach by collaborating with members from different disciplines such as gynecologists, urologists, algologists, physiotherapists, and psychologists. Treatment methods should include a variety of methods such as patient education, manual therapy, therapeutic exercises (focused on the pelvic floor and legs), biofeedback, pharmacotherapy, deformation therapy, and neuromodulation. With a holistic approach, the goals of looking good in physical, psychological, and social terms emerge.

Challenges and Limitations:

Lack of Awareness: There is a low level of awareness among both medicine and some healthcare professionals regarding the connection between PTD and the hip bridge. This can lead to delays in diagnosis and treatment.

Lack of Standardized Assessment Tools: The lack of standardized and widely accepted assessment tools that evaluate pelvic and hip functions together is a research and clinical limitation.

Treatment Protocols Heterogeneity: High-quality randomized controlled trial numbers comparing units of different treatment regimens are possible. This complicates the development of evidence-based treatment protocols.

Lack of Long-Term Follow-Up Data: More data are needed on the long-term effectiveness of the applied treatment method and the amount of recurrence.

Future Research Directions:

Basic scientific investigations towards better understanding of the pathophysiological architecture between PTD and the hip ligament.

Development and validation of new and more specific diagnostic tools that address these two issues together.

Evaluation of the system and costs of different treatment modalities (especially combined treatments), randomized controlled trials.

It is intended for epidemiological studies aimed at determining the risk and developing preventive strategies.

Conducts research by prioritizing patient-centered outcome measures (e.g., quality of life, functional improvement).

Use of technological innovations (e.g. virtual reality, wearable sensors) in pelvic floor and comparison.

In conclusion, pelvic floor dysfunction and leg dysfunction are conditions that frequently coexist and significantly alter the lives of individuals. Effective management of these patients requires a holistic assessment of their two domains and the use of individualized, holistic treatment methods by a multidisciplinary team. Future research will help us better understand this complex interaction and develop more effective treatment therapies.

8. CONCLUSION

The relationship between pelvic floor dysfunction (PTD) and hip companions is a frequently overlooked issue in clinical practice, but one that significantly complicates patients' quality of life. This review highlights the anatomical, biomechanical, and diplomatic connections between the pelvic floor and hip regions, emphasizing how pathology in one region can lead to persistence in the other.

The etiology of PTD and backpack is multifactorial, and the mutual process is often challenging due to overlapping honesty. A comprehensive history, a detailed physical examination including the pelvic floor and hip joints, and the use of advanced methods are essential to reach a correct diagnosis. Especially in women's health, the association of reproductive, obstetric and hormonal factors may cause more frequent occurrence.

Therapeutic treatments should be individualized and holistic, taking into account the complexity of these conditions. The most effective results are achieved with treatment protocols managed by a multidisciplinary team, with the collaboration of health professionals from various fields, such as gynecologists, urologists, algiologists, physiotherapists and psychologists. Treatment encompasses a variety of modalities, including patient education, manual therapy, specific exercise programs, pharmacological treatments, interventional pain techniques and psychological support. The combination of pelvic floor compatible and integrated technologies plays a key role in optimizing functional recovery.

With the advancement of current knowledge in this section, the causal links linking PTD and hip will become clearer, more high-quality links are needed to develop standardized diagnostic and assessment tools, and to evaluate the long-term effects of different treatment modalities. Future studies will contribute to a better understanding of risk, development of treatment systems, and further permanence of patient-centered care.

In conclusion, the possible connection between these two regions should always be considered in the evaluation of patients with complaints of pelvic floor and hip pain. A comprehensive evaluation and a multidisciplinary, holistic treatment approach offer a promising path to reducing pain, chronic capacity, and improving overall quality of life for these patients.

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