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REVIEW OF LITERATURE ON RECENT TRENDS OF REHABILITATION IN URINARY STRESS INCONTINENCE IN WOMEN.

Ambuja Bhardwaj[1] and Priyanjali Gautam [2]

AFFILIATIONS

[1] Assistant Professor, Department of Physiotherapy, School of Physiotherapy. RIMT University,

[2] Student, Department of Physiotherapy, School of Physiotherapy RIMT University,

ABSTRACT

An involuntary leak of urine with abrupt increases in intra-abdominal pressure, such as when coughing, laughing, sneezing, or exercise, is known as stress urinary incontinence (SUI). SUI frequently results from weak pelvic floor muscles and inadequate mechanical support of the vesicourethral sphincteric unit. The leaking occurs without detrusor contraction, which is significant for this form of UI. The most prevalent kind of incontinence in women is SUI. Due to the risk of urine leakage, women with UI avoid sexual activity. Numerous patients limit their everyday and social activities as well as their hydration consumption. This disorder's multifaceted, complicated etiopathogenesis may be brought on by diseases and organ and system-specific dysfunctions. UI is a sign or side effect of a lot of things severe, frequently recurring feminine diseases. A number of significant risk variables have been discovered, including increasing age and BMI. Stress urine incontinence affects a woman's living circumstances in terms of her professional, interpersonal, mental, physical, and sexual elements of her life. symptoms appear during a significant exertion, which raises intra-abdominal pressure. The physical examination, urine analysis, and questionnaires are all part of the health assessment. These are done to assess the disease. The patient history includes urinary symptoms, frequency, urgency, hematuria, recurrent urinary tract infections, and nocturia. Pharmacological, surgical, or rehabilitative treatments are available. According to the most current data, physiotherapy can be effective in treating stage I SUI in up to 80% of patients and stage II SUI in 50% of patients.

Keywords: Physiotherapy, Patients. Rehabilitation, Stress ,Women.

1. INTRODUCTION

The International Continence Society defines urinary incontinence (UI) as "an uncontrollable loss of urine which is objectively a demonstrable, social, and sanitary concern" Ghaderi F. et al (2014). The term "stress urinary incontinence" (SUI) refers to the involuntary leakage of urine with abrupt increases in intra-abdominal pressure, such as when coughing, laughing, sneezing, or exercise or heavy weight lifting. Inadequate mechanical support provided by the vesicourethral sphincteric unit and weak pelvic floor are two common causes of SUI. The fact that the leaking occurs without detrusor contraction is significant for this sort of UI. Ptak, M., et al (2017) The most prevalent kind of incontinence in women, SUI lowers the quality of life for those who suffer from it. A. Ford and others (2015)

The afflicted ladies retreat from social life because of embarrassment, worry, and dread of offensive odours or uncontrolled urine leakage. Additionally, UI lowers the self-esteem of women and has a bad impact on their sexual lives. Because there is a chance of urine leakage during sex, women with UI avoid it. Sexual dysfunction has been shown to affect between close to 50% and 68% of women with incontinence. SG Vitale and Co. (2017). Many patients limit their daily and social activities and cut back on their hydration intake, the group Biri A. (2006) Female stress urinary incontinence prevalence rises with age, Nystrom E, et al (2015) There are more than 200 million people who suffer from urine incontinence globally. From middle age forward, incontinence happens regularly and is linked to a lower standard of living R. Levy, et al (2006). The most common kind is stress urine incontinence, and its prevalence ranges from 13.1% to 70.9% in various groups (SUI). E. Nystrom, et al (2015)

However, a lot of women choose not to get medical attention. Incontinence is seen to be "normal," discussing incontinence is humiliating, the symptoms are not taken seriously by medical professionals, or the treatment options are inadequate. These are all possible reasons for delaying therapy. Hannestad YS et al. (2000) Between 10% and 40% of adult women are thought to be affected, and between 3 and 17% are thought to be severely affected. The yearly incidence is thought to be between 2 and 11%. Mils et al. (2009) Ageing, pregnancy, childbirth, and obesity are risk factors for SUI. Intrinsic sphincter deficit (ISD), urethral hypermobility, or a mix of the two are further classifications for SUI. ISD is defined by lack of urethral closure. When the bladder neck muscular support is insufficient, the proximal urethra cannot be reached by the intra-abdominal pressure, causing urethral hypermobility. Wang Hung-Jen et al (2011) The urogenital tract and pelvic floor both contain oestrogen and progesterone receptors. This might suggest that these hormones are crucial for continence. In fact, oestrogen raises urethral closure pressure, maybe in part due to better blood flow. Oesterogen has also been proven to strengthen the epithelia in postmenopausal women's vagina, urethra, and bladder walls. Consequently, the usage of HT for postmenopausal women predicted to lower the possibility of SUI. Rahkola-Soisalo P. et al (2019)

According to US research, undergoing surgery for pelvic organ prolapse (pop) or stress urinary incontinence (SUI) carries an estimated 11% lifetime risk. The likelihood of urine incontinence is greatly reduced following caesarean birth, according to various epidemiological studies. Leijonhufvud A. et al (2011) The primary muscle of the pelvic floor, called the levator ani, is made up of 70% type I fibres, which contract slowly, and 30% type II fibres, which contract quickly. The proportion of fast-twitch fibres decreases in SUI. Additionally, it has been noted that ageing causes decreases in type I and type II fibre counts as well as in their diameter, resulting in a higher incidence of SUI in elderly women. Because of its outstanding outcomes, lack of side effects, and reduced surgery and hospital expenses, clinical therapy for SUI is growing in popularity. Since they have no side effects, perineal workouts are highly recommended. M. Zanetti

et al (2007) Pelvic floor muscle training is the primary therapy for SUI (PFMT) K. Moore et al (2012). Forgetting, not prioritising, not monitoring, and failing to see the advantages of training are just a few of the barriers to exercise that prevent PFMT from being as successful as it may be. D. Frances Borello et al (2013)

2. ETIOPATHOGENESIS

Men and women experience SUI at different etiologies. Poor urethral sphincter function in women has an unknown and poorly understood cause. Body mass index (BMI) and growing older are two significant risk variables that have been discovered. Along with the denervation of important pelvic floor components as people age, muscle fibres start to disappear and transform into scar tissue.

This development is significantly influenced by the number of pregnancies that result in future vaginal births. Therefore, SUI is considerably less likely to occur in nulliparous women or those who gave birth through C-section. Additionally, the development of SUI may be influenced by menopause-related hormonal changes, smoking, chronic constipation, cognitive decline, radiation exposure, or post-surgical problems. It's interesting that symptoms typically get worse before a period. These details suggest that on the function of the urethra and sphincters, the levels of oestrogen and progesterone may be crucial.

The multifaceted and complicated etiopathogenesis of this disorder may be brought on by diseases and organ and system-specific dysfunctions. In light of its diverse etiopathogenesis, urine incontinence is therefore treated as a symptom rather than as a single disease entity. Many significant, frequently long-lasting female ailments have urinary incontinence as a symptom or side effect. Witko J., et al (2020) stress urine incontinence makes life more difficult for women in terms of their jobs, relationships, mental health, physical health, and sexual activities Smith AP., et al (2016).

The five primary hypothesis that have been put out are listed below. Nevertheless, micturition is a complicated process, thus it is likely that the pathophysiology of ISD is multifaceted and has elements of each explanation.

1. According to the urotheliogenic theory, aberrant signalling or activity in the bladder urothelium causes urgency to start. (Eapen RS. Et al., 2016) the urotheliogenic hypothesis, according to which a urethral issue is what causes urgency. This theory was mostly founded on the observation that a lot of patients experience urgency, especially while shifting positions. I. Scarneciu et al (2021)
2. According to the myogenic theory, increasing spontaneous activity results from the detrusor's muscarinic receptors being more susceptible to cholinergic activation (Eapen RS. Et al 2016). As shown by Brading, the detrusor has a difficulty. Other writers have shown further detrusor dysfunctions that cause unrestrained detrusor contractions. I. Scarneciu et al (2021)
3. According to the neurogenic theory, the central inhibitory pathways and/or peripheral nerves in the detrusor that cause the micturition reflex to occur are damaged or disrupted. Eapen RS. & others (2016)
4. According to the supraspinal hypothesis, the brain and brainstem are where urgency is said to have its roots. Certain white matter regions may deteriorate with ageing, which might cause problems with the urinary system.
5. Detrusor underactivity: This condition, which has been linked to urothelial or suburothelial dysfunction or detrusor muscle dysfunction, gives the appearance of urgency. I. Scarneciu et al (2021)

3. RISK FACTORS OF SUI

3.1 Obesity

According to the available data, BMI is inversely correlated with the prevalence of stress incontinence. Theoretically, the rise in intraabdominal pressure that occurs along with a higher BMI causes a correspondingly larger intravesical pressure, which defeats the urethral closure pressure and resulting in incontinence. Because the static pressure inside the bladder is larger in this case, the amount of increased intra-abdominal pressure required to propel urine through the urethra is less. Bai SW, et al., 2002 In 138 morbidly obese women who underwent weight reduction, Deitel found that the prevalence of SUI decreased from 61 to 11 percent. Magon et al (2011)

3.2 Pregnant women and Childbirth

A direct link exists between the beginning, progression, and outcome of SUI and pregnancy and delivery. The risk of postpartum incontinence after pregnancy might quadruple. The nevertheless, there being a paucity of objective data, the risk factors for SUI during pregnancy are not yet fully understood, and clinical expertise of medical professionals is utilised to determine if SUI is predicted to occur in pregnant women. Jiejun Gao and co. (2021). In a study of more than 15,000 women, urine incontinence was prevalent in 10.1% of nulliparous women, compared to 15.9% of caesarean birth patients and 21% of vaginal delivery patients. Lawrence N. Wood (2014) SUI is more prevalent in parous women than nulliparous women. If incontinence occurs during pregnancy, it usually goes away by puerperium. However, it might recur during consecutive pregnancies, get worse with time, and eventually become a serious issue. Stress incontinence's frequency is possibly correlated with the number of pregnancies and is much greater in multiparous women than nulliparous women. Groom A (1999) Incontinence after delivery may be caused by direct injury to the pelvic muscles and their connective tissue attachments, as well as nerve damage from trauma or tension. AJ Snooks (1986) In addition to causing pelvic organ prolapse and SUI, childbirth can harm a mother's ability to control her pelvic floor. Theo G (2021).

3.3 Smoking and chronic lung disease

An increased risk of SUI exists in women with chronic obstructive pulmonary disease who are older than 60. Smoking cigarettes is a separate risk in a similar way. The relative risk of SUI is between 1.8 to 2.92 among current smokers, according to research by Hannestad and colleagues as well as Bump and McClish. Smoking appears to have a strong causative association with SUI, whether directly or through conditions like chronic obstructive pulmonary disease that are linked to smoking and lead to greater coughing.

3.4 Hysterectomy

The pelvic floor muscles may be harmed by a hysterectomy, which might result in incontinence. In addition to cystocele (prolapse of the bladder), rectocele (prolapse of the rectum), uterine prolapse, and vaginal vault prolapse following hysterectomy, stress urinary incontinence has also been linked to vaginal prolapse, most likely due to the shared risk factor of the weakening of the pelvic floor muscles. Reena, C., et al (2007)

3.5 Prolapse of a pelvic organ

When the prolapse is decreased or healed, there is a substantial risk of developing stress urine incontinence (SUI), which commonly coexists with pelvic organ prolapse. According to the research, SUI following vaginal reconstructive surgery poses a risk for 36 percent to 80 percent of women with extensive vaginal prolapse Reena C., et al (2007).

3.6 Additional Risk Factors

Family history is significant because women who have incontinent mothers or older sisters are more prone to have stress and mixed incontinence. YS Hannestad (2004) The prevalence of any sort of incontinence, most frequently stress urinary incontinence, was found to be 40% in a cross-sectional nationwide study of more than 4300 women who used more caffeine daily than 204 mg (about the amount of caffeine in one cup of coffee). Gleason JL et al. (2013) Occupation: A job that requires strenuous physical labour and the carrying of large objects might cause urine incontinence. Physical activity level: Too little or too much physical exercise have both been shown to increase the risk of urine incontinence. Nygaar IE and others (2016)

4. CLINICAL PRESENTATION

SUI symptoms that are frequently experienced include:

The tough to control acute need to urinate. Urine loss from leaking or accidently spilling, sometimes just after an intense desire to urinate. urinating often, typically eight or more times in a 24-hour period. Need more than two nighttime awakenings to use the restroom. C.J. Palmer et al (2017) Cough-induced detrusor overactivity leaking may also happen after a little delay, hence leakage must be monitored right away after the cough. Referred to as SUI on prolapse reduction, stress incontinence is a symptom that is only present after the correction of a coexisting pelvic organ prolapse. Urodynamic stress incontinence is the name given to the urodynamic observation of SUI. P. Abrams, et al (2002) While increased voiding frequency noted on a bladder diary, micturition time chart, or frequency volume chart may be seen as an indication. UI is linked to poor self-rated health, reduced emotional and psychological well-being, worsened sexual relationships, lower quality of life, and depressed symptoms. It has been reported to limit both social contacts and physical activity. It should be highlighted that SUI cannot be diagnosed only based on these symptoms because they can also be present in a wide range of other diseases. The patient's voiding history, a medical assessment, a physical exam, and the required tests should all be performed in order to rule out urinary tract infections, neurological problems, or other diseases. C.J. Palmer et al (2017)

Some writers claim that between 50 and 88 percent of all cases of urine incontinence are caused by stress urinary incontinence (SUI). Three phases of the disease's course are identified by stress urine incontinence:

4.1 Stage I - symptoms only appear during a significant exertion that raises intra-abdominal pressure. Sneezing, coughing, or laughing should be taken into consideration at this point;

4.2 Stage II - the symptoms develop with moderate exertion like jogging, hard lifting, or sports.

4.3 Stage III: Symptoms are noticeable with little to no physical effort and a little increase in intra-abdominal pressure. This stage results in a substantial increase in intra-abdominal pressure. Walking and rising from a laying to a standing position are two situations when urinary incontinence can happen.Gabriela Koodyska et al. (2019)

5. MEDICAL AND SURGICAL MANAGEMENT

According to the Food and Drug Administration (FDA), there are no pharmaceutical therapies for SUI that have been authorised. For clinical signs of mixed urine incontinence, anticholinergic drugs and/or beta-3 receptor agonists are most frequently employed (SUI combined with overactive bladder). Desmopressin, estrogens, and selective serotonin noradrenaline inhibitors (SSNRI) may also be helpful.

5.1. Oestrogen therapy for female stress incontinence:

Oestrogen administration resulted in heterogeneous urine continence. Few low power trials with brief follow-up have suggested an improvement in leaks, but major follow-up studies with populations of incontinent or non-symptomatic women have not supported this. For the prevention or treatment of urinary incontinence, the advantages of oral oestrogen therapy alone or in combination with progesterone have not been shown. postmenopausal ladies who are incontinent. The frequency and severity of urge incontinence are improved with vaginal oestrogen therapy. It is not advised to treat or prevent female stress urine incontinence with oral oestrogen therapy.

5. 2. Duloxetine is used in the treatment of female stress incontinence.

When it comes to enhancing quality of life and improving perceived improvements, duloxetine is notably superior to a placebo. As much as 50% fewer leakage incidents were reported over the therapy period, according to case studies. There is yet no proof that extended or post-administration duloxetine treatment results in sustained effectiveness. Duloxetine has not yet been proven to be effective in treating female stress incontinence, and it is not advised to use it as a first-line therapy for urine incontinence. By activating the sympathetic system of the smooth muscle of the urethra, adrenergic compounds have demonstrated only small benefits in stress urine incontinence, but these medications have since been taken off the market due to the danger of hemorrhagic stroke. Imipramine is a tricyclic antidepressant that has been successfully used to treat stress incontinence and mixed incontinence. It has anticholinergic and adrenergic reuptake inhibitory actions. Regarding the use of imipramine to treat urine incontinence, there are no randomised clinical studies available.

6. SURGICAL TREATMENT

6.1 Mid uretheral sling (MUS):

The purpose of the tension-free midurethral sling is to support the pubic bone, suburethral vaginal hammock, and pubococcygeus muscles at the midurethra. The tension-free midurethral sling is the most popular procedure for treating stress urine incontinence because to its simplicity of insertion, short operating time, tiny incisions, and speedy patient recovery.

6.2 Retropubic urethropexy or colposuspension:

The Burch colposuspension and the Marshall Marchetti Krantz operation are both types of retropubic urethropexy, sometimes known as colposuspension. Permanent sutures are placed at the bladder neck supported by either Cooper's ligament (Burch) or the periosteum of the pubic symphysis using a tiny suprapubic incision (Marshall Marchetti Krantz). About 80% of stress urine incontinence can be predicted to be cured by retropubic urethropexy as main or secondary surgery. Peggy N., et al (2006)

6.3 Vaginal mesh:

Mesh is safe and effective when used in midurethral synthetic slings and for the surgical treatment of stress incontinence. The FDA issued a warning concerning the surgical treatment of pelvic organ prolapse and incontinence with vaginal mesh in 2008. A revised FDA warning issued in 2011 after the number of adverse events reported to the FDA exceeded 3874 stated that the majority of mesh-related complications were linked to mesh that was vaginally implanted for prolapse and that there was insufficient evidence to advise against using mesh for stress urinary incontinence procedures. In a joint statement released in January 2014, the American Urogynecologic Society (AUGS) and SUFU firmly endorsed the use of polypropylene mesh in midurethral sling surgery. The declaration acknowledged the technique as the, all-encompassing norm that is secure.for the treatment of female sufferers of stress incontinence. Only 4% of women

in a study of adverse events more than two years after a sling operation suffered mesh-related issues, and the majority of these did not call for surgical intervention. Bruce L. et al (2011)

6.4 Urethral bulking procedures:

This is intended to cure stress incontinence by inflating the proximal urethra/bladder neck submucosal tissues artificially. These operations involve injecting synthetic or autologous fillers (such as calcium hydroxylapatite, carbon bead particles, or bovine collagen) into the urethral wall to give it more volume, improve urethral coaptation, and reestablish the mucosal seal mechanism of continence. The supple urothelium and the vascularity of the submucosal arteries of the urethra produce a leak-proof mucosal barrier that is necessary for continence. Low morbidity and minimal UTI and short-term voiding dysfunction are associated with the injection of bulking agents. Donna Ye, et al (2011)

6.5 Fascial sling:

The urethrovesical junction is elevated into an intraabdominal space by the fascial sling's hammock-like action underneath the bladder neck. to give urethral compression in a specific area. The ends of the sling or suspending sutures used in these treatments are anchored to the rectus fascia, which sets them apart from contemporary tension-free operations. The sling and urethra cannot be raised during straining in some sling method variations when the ends of the sling are fastened to an immovable tissue (the Cooper's ligament or bone anchors in the pubic symphysis). The sling is supposed to provide a safe platform for urethral support during these procedures. The urethra is compressed from both above and below as the intraabdominal pressure rises because the urethra is forced downward against the sling. It is hypothesised that this compression of the urethra causes an increase in urethral resistance and a stress incontinence has resolved. Navneet Magon et al. (2011)

6.6 Laser Treatment :

Currently, intravaginal laser treatment with minimally invasive techniques is a potential new therapeutic strategy. For the treatment of SUI, three different laser modalities have been published, including the non-ablative Er:YAG laser therapy (2,940 nm) with SMOOTH mode technology and dual-phase erbium-doped yttrium aluminium garnet (Er:YAG) laser therapy (2,940 nm) combining fractional cold ablation and thermal ablation. In each of the three conditions mentioned above, laser treatment works by causing neocollagenesis, which thickens and strengthens the anterior vaginal wall and, in turn, improves the support of the bladder and urethra and, as a result, the ability to maintain continence.

7.PHYSIOTHERAPY MANAGEMENT

According to the most recent data, physiotherapy can be effective in up to 80% of patients with stage I SUI and mixed form and 50% of patients with stage II SUI.

Training the bladder and the pelvic floor muscles (PFMT) under close supervision are advised. Here, "supervised" is the important term. Navneet Mgon and others (2011)

7.1 PFMT (pelvic floor muscle training):

The most common form of therapy for SUI is PFME, or repetitively selective voluntary contraction and relaxation of certain PFM, sometimes referred to as Kegel exercises. This technique for treating UI and enhancing the function and tone of PFM after delivery was initially proposed by an American gynaecologist by the name of Arnold Kegel in the late 1940s. Smith H., et al., (2002) It is advised to begin pelvic floor therapy for stress incontinence. floor exercises for muscles Teaching the patient to contract these muscles repeatedly throughout the day for the count of 10, from 5 to 10, is one helpful use. At first, Kegel advised the patient to contract her pubococcygeal muscles five times each time she woke up, five times upon rising, and five times

each half-hour throughout the day. 8 to 12 weeks of therapy is the ideal time frame before reevaluating the need for additional care. By telling the patient to make an effort to stop the urine stream when she is voiding, the patient can be shown how to contract these muscles. She may practise the exercises whenever she wants after learning which muscles to contract, independent of when she is voiding.Finding the appropriate muscles is crucial since working out the incorrect muscles will not reduce incontinence.

7.2 Muscles can be worked out in a variety of ways, including:

To find the pelvic floor muscles, one method is to pinch the anus muscles to stop gas from flowing. This approach should cause women to experience a "pulling" feeling at the anus. Another method involves laying down and inserting a finger into the vagina while attempting to squeeze the muscles around the finger. Both the pressure on her finger and the sensation in her vagina should be audible to her. Depending on the availability of the product and the patient's capacity to manage the therapy, vaginal support devices cost, acceptability by patients, and product. Lack of enthusiasm, a lack of continuity, and inconsistent execution are the main issues with pelvic-floor muscle training, all of which adversely influence the therapeutic effects for patients. LS Lukacz (2017) The body posture that the SUI-affected ladies exercise in may also need to be taken into account by physiotherapists. The effectiveness of a PFME progression that included practise in upright postures (i.e., sitting and standing) was compared to a PFME programme that was solely completed in the supine position in order to determine which was more beneficial at reducing SUI. They demonstrated that exercising and the consequent decrease in SUI were not significantly influenced by the PFME posture employed.

7.3 . Treatment for stress urinary incontinence during pregnancy:

The first-line strategy for treating SUI throughout pregnancy and postpartum is conservative treatment or perineal rehabilitation via PFME. To avoid the emergence of SUI during pregnancy and to manage its symptoms, pregnant women are frequently advised to undertake PFME. PFME are effective since postpartum women who have done them have reported cure and improvement rates of up to 84 and 100 percent, respectively. In comparison to straightforward guidance regarding individual PFME, PFME under the supervision of a therapist (re-educator or midwife) decreases the occurrence of UI in the near term. Prescribed PFME throughout pregnancy improves pregnant UI and lowers its prevalence in late pregnancy and the first few weeks after delivery.

7.4 Biofeedback training:

It is an additional approach to teaching pelvic floor muscle control that makes use of unique tools that track the activity of the muscles. The muscles are often electrically contracted using a tiny probe that is inserted into the vagina. This aids patients in locating the appropriate muscles and learning how squeezing feels. Mgon N., et al (2011) Women may nearly instantaneously see their muscle output during exercise by using biofeedback. PFME plus biofeedback is not more efficient than PFME alone, according to the research. However, for certain women, PFME in combination with biofeedback may be a clinically effective and tolerable therapy. For individuals who could struggle to comprehend how to contract the PFM or are unable to do so, it may be a sensible technique to begin PFME using biofeedback. Correct PFME form can also be taught through biofeedback. Morkved S., et al (2002)

7.5. Cone therapy:

Even in individuals without a perceptible voluntary contraction, cone treatment may be an effective workout and biofeedback tool when employing vaginal cones. Laycock J et al., (2001)

7. 6. PFME and electrical stimulation:

Physiotherapists also employ electrical stimulation (ES) as a treatment to lessen UI. The physiological goals of ES are to enhance circulation to muscles and the capillary system, to induce muscular hypertrophy, and to restore the reflex activity of the lower urinary tract. By stimulating the PFM, ES of the pudendal nerve enhances urethral closure. Additionally, it could improve one's capacity to produce a voluntary muscular contraction and raise cognitive awareness of how these muscles are acting. For women who initially have trouble contracting the PFM, ES is a priority. Bernards ATM and others (2011) Electrical stimulation can be used alone or in conjunction with PFMT or BF, which, according to study, greatly improves its efficacy in both urine and faeces. However, it is not advised as the first line of UI therapy due to the pain or suffering the patient may experience during the surgery. For SUI, 50 Hz is the ideal stimulation frequency. Motor neurons rather than the muscle immediately activate the muscle when electrical stimulation is applied. As a result, frequencies greater than 70 Hz may harm the neuromuscular system. Both surface electrostimulation and transvaginal electrical stimulation resulted in a considerable decrease in UI symptoms.

7.7. Incontinence pessaries:

These are utilised to support and physically raise the urethra, which restores the body's proper anatomical connections. As a result, the bladder and urethra get an equal amount of increased intra-abdominal pressure, maintaining continence. In contrast to pessaries for pelvic organ prolapse, incontinence pessaries include extra characteristics designed particularly to support the urethra. Due to their non-invasive nature, pessaries are beneficial for people in whom surgery is not recommended (elderly, ill, or pregnant women). To prevent infection of the vaginal epithelium or harm to the vaginal tissues, these devices must be used under constant medical supervision. Vaginal oestrogen cream is frequently administered to patients to lower the risk of vaginal damage and ulceration. Tamara L.. Et al (2018)

7.8. Vibration Therapy for Stress Urinary Incontinence:

Numerous conditions can benefit from vibration treatment, but few research have specifically addressed SUI. However, a combination of vibration treatment and physiotherapy is advised by many years of successful experience to treat SUI. All muscles, including those that obliquely support the pelvic floor, are affected by whole-body vibration, a holistic treatment. The body makes an effort to control the vibration-induced reactions. The vibration plate workouts are individualised, or modified according to the patient's capabilities. Patients are taught the proper functional mobility, including sitting, standing, carrying and lifting objects, standing up, tying shoes, and avoiding improper posture and uneven load distribution. Coordination and efficient muscular contact are encouraged by this functional exercise. Reaction drills, like collecting a ball while balancing on one leg, Additionally, there are vibration plates. Training is provided for muscle tension, strength, and endurance, and patients gain knowledge of proper mobility in daily life. Before, after, or during individual physiotherapy, whole-body vibration is a brief yet powerful training session lasting 2–4 minutes. In 3 to 6 months, five to nine sessions are anticipated.

7.9 Behavioural therapy:

The term "behavioural therapy" refers to a group of strategies intended to encourage alterations in the patient's routines in order to reduce or eradicate the symptoms of pelvic floor dysfunction. It contains directions on how to drink fluids, how to train your bladder, and information on the lower urinary system. Urinary frequency, urgency, and nocturia, as well as quality of life, significantly improve with a 25% reduction in fluid consumption and its reduction in the hours before bed. Caffeine should not be consumed in large amounts. Patients who undergo

bladder training are able to restore control over their micturition reflex and get rid of the need to urinate.

7.10. Pilates exercise:

Pilates routines can include breath work and strengthen the pelvic floor and core.While the diaphragm expands and the pelvic floor shortens during inhalation, the transversus abdominis and transversus abdominis contract during exhale. These muscles work together to maintain and protect the lumbopelvic and urogenital structures as well as their normal function. Hein J. et al (2020) The core muscles, including the transversus abdominis, pelvic floor muscles, multifidus, and diaphragm, are engaged through synchronising breathing with movement in the Pilates method. The rhythm of the movement sequence is maintained by this synchronisation. The Pilates approach could be a desirable choice for pelvic floor dysfunction prevention or therapy. proper course of therapy and accurate information on the risks, advantages, and available therapies' alternatives. The techniques to treating stress urine incontinence have evolved significantly over the years and continue to do so. The number of patients seeking treatment for stress incontinence is rising, so it's important to stay up to date on the newest theories on how the condition works and the procedures that may be used to treat it. A summary of the most recent research and theories is provided.

8. CONCLUSION

In this study we have seen that SUI is an involuntary loss of urine during sudden increases in intra-abdominal pressure and the complaint of involuntary leakage on effort, exertion, on sneezing, coughing and heavy weight lifting. It is the commonest form of incontinence in women and leads to a reduction in their quality of life. This disorder is multifaceted and complicated, and it may be brought on by diseases and organ and system dysfunctions of many kinds. In SUI patient rehabilitation is more effective than pharmacological or surgical treatment. Pelvic floor muscle exercises appeared to be an effective treatment protocol for women presenting with stress urinary incontinence. It is prevalent and costly problem that affects women worldwide. Proper and thorough elevation is imperative in order to provide patient with appropriate treatment option and accurate counselling regarding the risk, benefits, and alternatives to the available therapies. Numerous new technique have been developed in the treatment of stress urinary incontinence, and the approaches continue to evolve. With the increase number of patient seeking treatment for stress incontinence, it is essential to say current with the latest concept in the mechanism of stress incontinence and the techniques available for its treatment. An overview of the latest literature and principles is presented.

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