Problem of Incontinence of Urine (IU) in Women and its Management

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Abstract

Bladder symptoms affect women of all ages. Millions of women experience involuntary loss of urine called urinary incontinence (UI). Some women may lose a few drops of urine while running or coughing. Others may feel a strong, sudden urge to urinate just before losing a large amount of urine. Many women experience both symptoms. UI can be slightly bothersome or totally debilitating. For some women, the risk of public embarrassment keeps them from enjoying many activities with their family and friends. Urine loss can also occur during sexual activity and cause tremendous emotional distress. Women experience UI twice as often as men. Pregnancy and childbirth, menopause, and the structure of the female urinary tract account for this difference. Urinary incontinence (UI) is any involuntary leakage of urine. It is a common and distressing problem, which may have a profound impact on quality of life.

Introduction

Urinary Incontinence is defined generally as involuntary leakage of urine, (Abrams et al, 2003). It is a common health problem among women. The prevalence ranges from 3% to 55% (Thom, 1998). The prevalence of urinary incontinence also increases with advancing age. About 17% to 55% of older women report having experienced urinary incontinence at some point, compared with 12% to 42% of younger women. Up to 35% of the total population over the age of 60 years is estimated to be incontinent, with women twice as likely as men to experience incontinence. One in three women over the age of 60 years is estimated to have bladder control problems (Walid MS, 2009). Difficulty with bladder control results in higher rates of depression and limited activity levels (Nygaard et al, 2003). Coital incontinence (CI) is urinary leakage that occurs during either penetration or orgasm and can occur with a sexual partner or with masturbation. It has been reported to occur in 10% to 24% of sexually active women with pelvic floor disorders (Karlovsky & Matthew, 2010). There are several different types of urinary incontinence, including stress, urge, mixed, and overflow incontinence. Stress incontinence is involuntary leakage from effort or exertion, or from sneezing or coughing, and it is usually related to increased urethral mobility and/or poor intrinsic sphincter function. Urge incontinence is involuntary leakage accompanied or immediately preceded by urgency, and it usually indicates detrusor overactivity. Mixed incontinence is the complaint of involuntary leakage associated with urgency and also with exertion, effort, sneezing, or coughing. A less common form of urinary incontinence in women is overflow incontinence, which is associated with over-distension of the bladder and can be caused by obstruction (e.g. pelvic organ prolapse) or a neurological condition (eg, spinal cord injury). Urinary incontinence is associated with poor self-rated health, impairment in quality of life, social isolation, and depressive symptoms (Dugan et al, 2000). Many areas of a woman's life including social, physical, occupational, and leisure can be impacted by urinary incontinence (Temml et al, 2000).

Urinary incontinence is very common problems for women in Nepal (*Singh, 2012)*. These conditions can be very embarrassing, even distressing for many. They may be a consequence of the gradual weakening of pelvic muscles over time as a result of childbirth, surgery, or ageing. It is the pelvic muscles that control the release of urine and help support pelvic organs, and so particular exercises to strengthen these muscles could improve urinary control in people with bladder problems and cure symptoms. Therefore, an understanding of the etiology and effective management options for urinary incontinence in women should be an important consideration to the nurse as a health care provider.

Causes

As a woman has increased her age, their pelvic floor muscles, the 'sling' of muscles that support the bladder, bowel and uterus may stretch and weaken. A number of factors may contribute to this weakening, including the long-term effect of pregnancy and childbirth, being overweight, chronic constipation, chronic coughs; frequent lifting of heavy objects, and lowering in hormone levels after menopause specifically, a lack of estrogen. Loss of estrogen after menopause can cause thinning of the walls of the urethra, which may stop the urethra from closing as tightly.

Causes of temporary urinary incontinence: Certain foods, drinks and medications can cause temporary urinary incontinence. A simple change in habits can bring relief.

- Alcohol. Alcohol acts as a bladder stimulant and a diuretic, which can cause an urgent need to urinate.
- Over hydration. Drinking a lot of fluids, especially in a short period of time, increases the amount of urine in the bladder.
- Caffeine. Caffeine is a diuretic and a bladder stimulant that can cause a sudden need to urinate.
- Bladder irritation. Carbonated drinks, tea and coffee; with or without caffeine, artificial sweeteners, corn syrup, and foods and beverages that are high in spice, sugar and acid, such as citrus and tomatoes can aggravate the bladder.
- Medications. Heart medications, blood pressure drugs, sedatives, muscle relaxants and other medications may contribute to bladder control problems.

Easily treatable medical conditions also may be responsible for urinary incontinence.

- Urinary tract infection. Infections can irritate the bladder, causing to have strong urges to urinate. These urges may result in episodes of incontinence, which may be only warning sign of a urinary tract infection. Other possible signs and symptoms include a burning sensation when woman urinate and foul-smelling urine.
- Constipation. The rectum is located near the bladder and shares many of the same nerves. Hard, compacted stool in your rectum causes these nerves to be overactive and increase urinary frequency. In addition, compacted stool can sometimes interfere with the emptying of the bladder, which may cause overflow incontinence.

Causes of persistent urinary incontinence: Urinary incontinence can also be a persistent condition caused by underlying physical problems or changes, including:

- Pregnancy and childbirth. Pregnant women may experience stress incontinence because of hormonal changes and the increased weight of an enlarging uterus. In addition, the stress of a vaginal delivery can weaken muscles needed for bladder control. The

changes that occur during childbirth can also damage bladder nerves and supportive tissue, leading to a dropped (prolapsed) pelvic floor. With prolapse bladder, uterus, rectum or small bowel can get pushed down from the usual position and protrude into the vagina. Such protrusions can be associated with incontinence.

- Changes with aging. Aging of the bladder muscle leads to a decrease in the bladder's capacity to store urine and an increase in overactive bladder symptoms.

- After menopause women produce less estrogen, a hormone that helps keep the lining of the bladder and urethra healthy. With less estrogen, these tissues may deteriorate, which can aggravate incontinence.

- Hysterectomy. In women, the bladder and uterus lie close to one another and are supported by many of the same muscles and ligaments. Any surgery that involves a woman's reproductive system eg, hysterectomy may damage the supporting pelvic floor muscles, which can lead to incontinence.

- Bladder cancer or bladder stones. Incontinence, urinary urgency and burning with urination can be signs and symptoms of bladder cancer or bladder stones.

- Neurological disorders. Multiple sclerosis, Parkinson's disease, stroke, a brain tumor or a spinal injury can interfere with nerve signals involved in bladder control, causing urinary incontinence.

- Obstruction. A tumor anywhere along urinary tract can block the normal flow of urine and cause incontinence, usually overflow incontinence. Urinary stones; hard, stone-like masses that can form in the bladder may cause urine leakage.

Complications

Complications of chronic urinary incontinence include:

- Skin problems. Urinary incontinence can lead to rashes, skin infections and sores from constantly wet skin.

- Urinary tract infections. Incontinence increases risk of repeated urinary tract infections.

- Changes in daily activities. Urinary incontinence may keep back woman from participating in normal activities. She may stop exercising, quit attending social gatherings or even stop venturing away from familiar areas where she knows the locations of toilets.

- Changes in work life. Urinary incontinence may negatively affect work life. Woman's urge to urinate may cause to have to get up often during meetings. The problem may disrupt the concentration at work or keep awake at night, causing fatigue.

- Changes in personal life. Perhaps most distressing is the impact incontinence can have on her personal life. Her family may not understand her behavior or may grow frustrated at many trips to the toilet. She may avoid sexual intimacy because of embarrassment caused by urine leakage. It's not uncommon to experience anxiety and depression along with incontinence.

Management of Urinary Incontinence

Preventive Management

Urinary incontinence is not always preventable. However, woman may be able to decrease their risk of incontinence by following ways;

- Maintain a healthy weight.
- Drink six to eight glasses or cups of fluid each day, mostly water.
- Reduce intake of caffeine and alcohol
- Avoid smoking.
- Practice Kegel (pelvic floor muscle exercises) exercise and bladder retraining.
- Avoid bladder irritants.
- Avoiding or limiting certain foods and drinks that may help prevent or limit urinary incontinence.
- Eat more fiber in diet each day to prevent constipation.
- Exercise/Physical activity to reduce risk of developing incontinence.
- Treat the causes of chronic coughing or sneezing.

Therapeutic Management

Treatment for urinary incontinence depends on the type of incontinence, the severity of problem and the underlying cause. In most cases, behavioral techniques and physical therapy is used first and move on to other options only, if these techniques fail.

1. Behavioral Techniques

Behavioral techniques and lifestyle changes work well for certain types of urinary incontinence.

- Bladder Training. Health care provider may recommend bladder training alone or in combination with other therapies to control urge and other types of incontinence. Bladder training involves learning to delay urination after getting the urge to go. Woman may start by trying to hold off for 10 minutes every time when she feels an urge to urinate. The goal is to lengthen the time between trips to the toilet until urinating every two to four hours.

- Bladder Training may also Involve Double Voiding; urinating, then waiting a few minutes and trying again. This exercise can help woman learn to empty her bladder more completely to avoid overflow incontinence. In addition, bladder training may involve learning to control urges to urinate. When woman feel the urge to urinate, she is instructed to relax, breathe slowly and deeply or to distract herself with an activity.

- Scheduled Toilet Trips. This means timed urination; going to the toilet according to the clock rather than waiting for the need to go. Following this technique, woman goes to the toilet on a routine, planned basis, usually every two to four hours.

- Fluid and Diet Management. In some cases, woman can simply modify her daily habits to regain control of bladder. She may need to cut or avoid alcohol, caffeine or acidic foods. Reducing liquid consumption, losing weight or increasing physical activity are other lifestyle changes that can eliminate the problem.

2. Physical Therapy

Pelvic floor muscle exercises. These exercises strengthen urinary sphincter and pelvic floor muscles; the muscles that help control urination. Health care provider may recommend that woman do these exercises frequently. They are especially effective for stress incontinence, but may also help urge incontinence. To do pelvic floor muscle exercises (Kegel exercises), imagine that woman is trying to stop urine flow. Squeeze the muscles one would use to stop urinating and hold for a count of three and repeat.

3. Electrical Stimulation

In this procedure, electrodes are temporarily inserted into the rectum or vagina to stimulate and strengthen pelvic floor muscles. Gentle electrical stimulation can be effective for stress incontinence and urge incontinence, but it takes several months and multiple treatments.

4. Medications

Often, medications are used in conjunction with behavioral techniques. Drugs commonly used to treat incontinence include:

- Anticholinergics. These medications calm an overactive bladder, so they may be helpful for urge incontinence. Several drugs fall under this category, including oxybutynin, tolterodine ,darifenacin , fesoterodine ,solifenacin and trospium.

- Topical Estrogen. Applying low-dose, topical estrogen in the form of a vaginal cream, ring or patch may help to gain muscle tone and rejuvenate tissues in the urethra and vaginal areas. This may reduce some of the symptoms of incontinence.

- Imipramine. Imipramine is a tricyclic antidepressant that may be used to treat mixed urge and stress incontinence.

- Duloxetine. The antidepressant medication duloxetine is sometimes used to treat stress incontinence.

5. Medical Devices

Several medical devices are available to treat incontinence. They are designed specifically for women and include:

- Urethral Insert. This small tampon-like disposable device inserted into the urethra which acts as a plug to prevent leakage. It is usually used to prevent incontinence during a specific activity, but it may be worn throughout the day. Urethral inserts aren't meant to be worn 24 hours a day. They are available by prescription and may work best for women who have predictable incontinence during certain activities, such as playing tennis. The device is inserted before the activity and removed before urination.

- Pessary. Doctor may prescribe a pessary; a stiff ring that insert into vagina and wear all day. The device helps hold up the bladder, which lies near the vagina, to prevent urine leakage. Woman need to regularly remove the device to clean it. She may benefit from a pessary if she has incontinence due to a dropped (prolapsed) bladder or uterus.

6. Interventional Therapies

- Bulking Material Injections. Bulking agents are materials, such as carbon-coated zirconium beads, calcium hydroxylapatite (Coaptite) or polydimethylsiloxane, which are injected into tissue surrounding the urethra. This helps to keep the urethra closed and reduce urine leakage. The procedure usually done by doctor and requires minimal anesthesia and takes about five minutes.

- Botulinum Toxin type A. Injections of botulinum toxin A (Botox) into the bladder muscle may benefit who have an overactive bladder.

- Nerve Stimulators. Sacral nerve stimulators can help to control bladder function. The device, which resembles a pacemaker, is implanted under the skin in buttock. A wire from the device is connected to a sacral nerve an important nerve in bladder control that runs from lower spinal cord to bladder. Through the wire, the device emits painless electrical pulses that stimulate the nerve and help control the bladder. Another device,

the tibial nerve stimulator, is approved for treating overactive bladder symptoms. Instead of directly stimulating the sacral nerve, this device uses an electrode placed underneath the skin to deliver electrical pulses to the tibial nerve in the ankle. These pulses then travel along the tibial nerve to the sacral nerve, where they help control overactive bladder symptoms

7. Surgery

If other treatments aren't working, several surgical procedures have been developed to fix problems that cause urinary incontinence. Some of the commonly used procedures include:

- Sling Procedures. A sling procedure uses strips of body's tissue, synthetic material or mesh to create a pelvic sling or hammock around the bladder neck and urethra. The sling helps to keep the urethra closed, especially when woman cough or sneeze.

- Bladder Neck Suspension. This procedure is designed to provide support to urethra and bladder neck, an area of thickened muscle where the bladder connects to the urethra. It involves an abdominal incision, so it is done using general or spinal anesthesia.

8. Absorbent Pads and Catheters:

If medical treatments can't completely eliminate the incontinence or need help until a treatment starts, one can try products that help ease the discomfort and inconvenience of leaking urine.

- Pads and Protective Garments. Various absorbent pads are available to manage urine loss. Most products are no more bulky than normal underwear, and woman can wear them easily under everyday clothing. Women can wear adult diapers, pads or panty liners.

- Catheter. If woman is incontinent because the bladder doesn't empty properly, health care provider may recommend that woman learn to insert a soft tube (catheter) into urethra several times a day to drain bladder (self-intermittent catheterization). This should give more control of leakage, especially if woman have overflow incontinence.

9. Lifestyle and Home Remedies

- Protect the skin. Problems with urine leakage may require woman to take extra care to prevent skin irritation.

- Use a washcloth to clean her.

- Allow the skin to air dry.

- Avoid frequent washing and douching because these can overwhelm body's natural defenses against bladder infections.

- Consider using a barrier cream, such as petroleum jelly or cocoa butter, to protect the skin from urine.

- Making the Toilet more convenient. If one has urge incontinence or nighttime incontinence

- If one has functional incontinence;

  - Keep a bedpan in bedroom.

  - Install an elevated toilet seat.

  - Add a bathroom in a more convenient location.

  - Widen an existing bathroom doorway.

Conclusion

When a woman has weak bladder control and urine leaks out involuntarily, it is referred to as urinary incontinence. Although urinary incontinence does not occur only due to weak bladder, other causes might be responsible too. There are different types of urinary incontinence which emerge for a number of different reasons. It is a common and distressing problem, which may have a profound impact on quality of life. Pelvic muscle exercises may help in reducing involuntary urine loss in majority of conditions.

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