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RESEARCH ARTICLE

Psychogenic Urinary Retention in Females: Is it Real?

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Abstract

Introduction: Urinary retention in women is relatively rare clinical occurrence compared to men, but has a profound impact on their quality of life. It's characterized by the inability to adequately void and empty the bladder. The underlying pathology could arise from anatomical abnormalities, neurogenic dysfunction, pharmacological or myogenic factors. Multiple studies report the concurrence of different psychological and functional disorders in women with urinary retention. This review has been done to highlight the pathophysiology, etiology, diagnostic evaluation and the approach of management of psychogenic urinary retention in females.

Methods: This paper is a narrative review of existing manuscripts regarding the psychogenic urinary retention in females. The search was done through PubMed in February 2023. The search was conducted using the following key words" psychogenic urinary retention in females".

Results: Eighty publications were reviewed by our authors, and only 10 manuscripts were considered for this review. A classic picture of psychogenic urine retention is usually a young female, with full workup being done revealing no other causes for the retention except for psychological factors and trauma. There are many predisposing and precipitating factors for psychogenic urine retention, including perceived stress, sexual problems, and positive psychologic features. Psychogenic urine retention has attracted different therapeutic approaches and managements. Psychotherapy and other techniques like biofeedback and behavioral therapy has found to get successful outcomes. Furthermore, urethral catheterization or intermittent self-catheterization is another method of treatment. Current evidence has been reported of sacral neuromodulation demonstrating favorable outcomes in females with psychogenic urinary retention and a potential treatment option.

Conclusion: Psychogenic urine retention in females is a real disorder with distressing symptoms and complications. It should be considered after exclusion of other organic causes by thorough diagnostic measures. Early identification and intervention is crucial to help alleviate symptoms, prevent complications, and improve the patient's quality of life. A combined multidisciplinary approach involving urologists, psychologists, and other healthcare individuals is usually the best method of management.

Keywords: Female, Management, Psychogenic, Urinary Retention.

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1. Introduction

Urinary retention is one of the most common serious urological complaints. It is the inability to evacuate a full bladder and could be further divided to acute or chronic[1].

Acute urinary retention (AUR) in females is uncommon compared to males[2]. There are many causes for female urinary retention usually divided into anatomical, neurogenic, myogenic, or pharmacotherapy side effects[3-6]. Psychogenic urinary retention may develop in the absence of significant organic urologic or neurologic diseases,ranging from sudden acute retention to patients who have had retention chronically with large residual urine volume[7]. Epidemiological studies that estimate the incidence of psychogenic urinary retention in women are scarce with no strong consensus about its accurate incidence.

Multiple studies have reported the co-occurrence of different psychological and functional disorders in women with urinary retention[8-10]. It is typically attributed to affective disorders such as anxiety, depression, stress, emotional trauma, and functional disorders (fibromyalgia, irritable bowel syndrome, and functional neurological symptom disorders (FNDs) have been the commonest [11].

Because of knowledge gaps and the lack of multidisciplinary approaches, psychogenic urinary retention in females usually is missed and not managed efficiently. More awareness and high level of suspension is needed to properly identify and manage such patients. Therefore, this narrative review had been done aiming to aid our clinical practice for proper diagnosis and management of such problem.

2. Material and Methods

In this narrative review, we performed a PubMed data base search using the keywords" Psychogenic urinary retention, Urinary retention in females, and Psychogenic Urinary retention". The date of publications were up to 2023. Only full free text in English were included in our review. All records were manually screened by our authors. Reviews on psychogenic urinary retention in adult females were screened, children, adolescents, and males were excluded. We also excluded studies on animals, such as cats or rats. While studies related to voiding dysfunction due to urologic, neurologic, or gynecologic disorders were excluded from this review.

3. Results

After reviewing PubMed results, 7576 studies were detected, 6079 were excluded. Only free full records (1654 studies) were screened. 167 studies were eligible for the criteria of this current review. 155 studies were excluded as they did not match our criteria. Only 10 studies met our criteria and were included in our review (Figure 1).

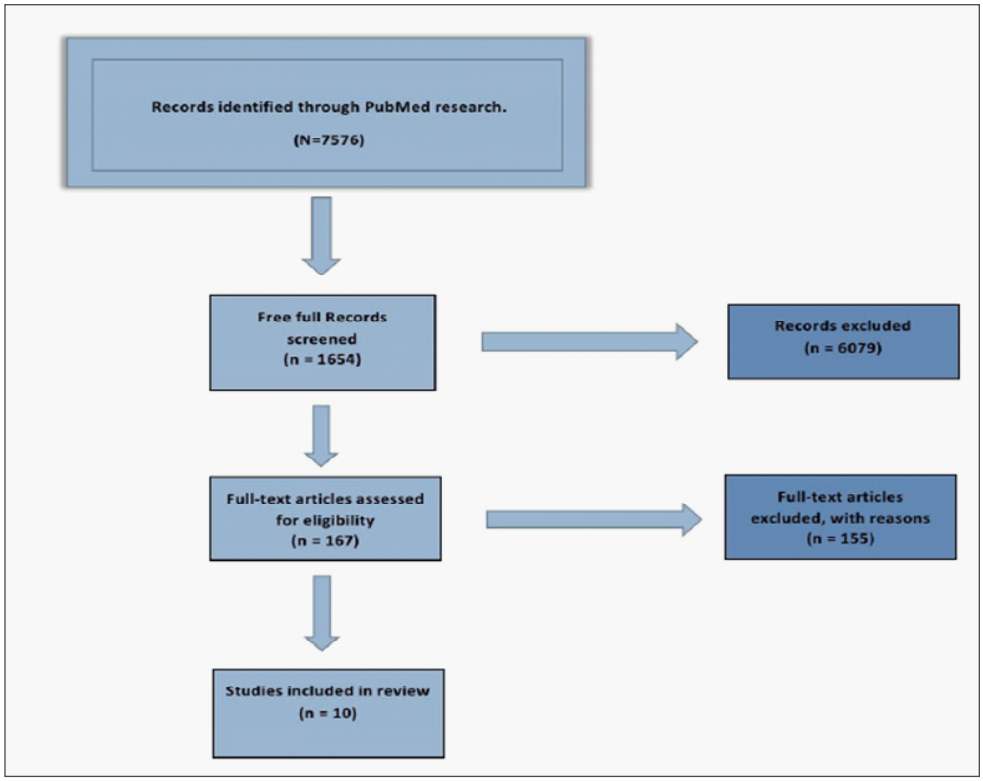

Figure 1. *Flow diagram for study inclusion criteria*

4. Discussion

Functional disorders of the lower urinary tract (LUT) in females are divided as voiding dysfunction, storage dysfunction, or both. It may also be subdivided as acute or chronic urinary retention[12, 13].

Female urinary retention has numerous organic pathologies (e.g., urologic, gynecologic, or neurologic) that are identified with clinical assessment and investigationssuch as urinalysis, urodynamic studies, and imaging. (Table 1).

Table 1. *Causes of female urinary retention* [3-6]

Anatomic	Functional	Neurogenic	Myogenic	Pharmacotherapy
urethral stone, post incontinence surgery, pelvic surgery, uterine prolapse, extrinsic compression by pelvic tumor, diverticulum, urethral carcinoma, prolapsed ureterocele, caruncle or Stricture*	dysfunctional voiding detrusor sphincter dyssynergia, impaired urethral relaxation (Fowler's syndrome)	Detrusor under activity by LMNL, Parkinson, strokes, MS, injury to spinal cord and cauda equine by herniated disc, pelvic fracture	chronic obstruction, non-neurogenic detrusor underactivity and DM.	Anticholinergic, Alfa-agonist, narcotics and anti-psychotic drugs, antihistaminic, and muscle relaxants.

Causes of urethral stricture: due to pelvic radiation, prolonged childbirth, pelvic fracture, prolonged catheterization, TB, carcinoma, polyp. Nevertheless, there are some voiding disorders in women that have unclear etiologies and are difficult to identify[14, 15]. Psychogenic female urinary retention in particular has lack of awareness in both literature and among physicians. Therefore, this narrative review has been concluded to shed some light on early diagnosis and intervention. The affiliation between psychological factors and urinary retention was reported for the first time in the 1800s, under the term "hysterical ischuria"[16, 17]. Williams and Johnson reported the first psychiatric study of a case of psychogenic urine retention in 1956[18].

Based on a review of these papers, a common picture of psychogenic urine retention is usually seen in a young female, who may had previous undiagnosed psychological problems, and her workup revealed no other causes for the retention except for the psychological trauma. There are many predisposing and precipitating factors for psychogenic urine retention reported in the literature. Which includes perceived stress, sexual problems, and positive psychologic features (Table 2)[18-29].

Table 2. *Predisposing factors for psychogenic urine retention in females*

Emotional deprivation during childhood	Wahl and Golden, 1963; Montague and Jones, 1979 [19,20]
Nocturnal enuresis and urinary tract infections (UTIs)	Wahl and Golden, 1963; Lamontagne and Marks, 1973; Christmas et al., 1991 [19, 21, 22]
Unhappy marriage or home life	Montague and Jones, 1979; Korzets et al., 1985 [20, 23]
Feelings of guilt or fear of punishment	Wahl and Golden, 1963; Montague and Jones, 1979 [19,20]
Depression and anxiety	Blaivas et al., 1977; Montague and Jones, 1979 [24, 20]
Patients' unhelpful thoughts about genitourinary sensations as being "dirty"	Williams and Johnson, 1956[18]
Surgery, or childbirth	Cardenas et al., 1986 [25]
Modeling from parents with genitourinary problems	Norden and Friedman, 1961; Wahl and Golden, 1963 [26,19]
Sexual abuse	Williams and Johnson, [18]Barbe RP et al 2004, [27]Felitti VJ et al 1991, [28]Read J et al 2003[29]
Rape	Williams and Johnson, 1956; Montague and Jones, 1979[18, 20]
Murderous rage	Williams and Johnson, 1956 [18]

The mechanism of psychogenic urinary retention could be a result from subconscious inhibition by the central nervous system on pelvic nerve activity via its interconnection from the cerebral cortex to the sacral cord, leading to impaired coordination between the detrusor muscle and the urinary sphincter.[30, 31] It may also result from suppression to afferent bladder sensory stimuli that normally stimulate the central nervous system to start micturition,ignoring the bladder sensory stimuli resulting in a large atonic bladder[31]. Furthermore, psychological factors may also influence and interfere with the coordination of pelvic floor muscles. Excessive muscle tension or relaxation of the pelvic floor muscles can hinder

the micturition process. It may also be a conditioned response to past painful or uncomfortable urination experiences, leading to a protective response of retaining urine from fear or anxiety.

A number of studies evaluated the psychological comorbidities in women with idiopathic urinary retention. They suggested the occurrence of different comorbidities, depression, somatization and unspecified psychiatric disorders[32-36].

They also called depression-requiring hospitalization, as "hysteria[32-36]. Mean while, the prevalence of other behavioral disorders such as phobias and post-traumatic stress disorder (PTSD), which are likely to have a relationship with the bladder function, is still unknown[39, 40]. Psychosocial factors, like stress may rarely alter a patient's intact bladder function to have acute urinary retention[31, 37-38]. In all likelihood, these patients had a liability to urinary retention aggravated by increasing emotional stress[31]. It is also said that a shy, introvert personality are more prone for psychogenic urinary retention[37].Some patients are unable to void when under extreme pressure or stress in a public restroom. However, they are able to void when there is no stress present[38]. In those patients' psychopathology may be a method that helps subconsciously avoid facing their psychosocial conflicts, preventing urinary retention.[31]

Psychogenic urine retention has attracted a wide range of therapeutic approaches and management. In the past, before diagnosing psychogenic urinary retention, patients undergo unnecessary surgeries such as urethral dilatation, urethral elongation, and hysterectomy[26, 31].

In more recent literature, studies of systematic desensitization with relaxation training and biofeedback-monitored relaxation training were described being an efficient treatment approach[26-27, 41]. Intermittent catheter placement was also found to be a method of treating urinary retention. In our review, many reported cases underwent successful psychotherapy treatment as well as other treatment options, showing significant improvement Table 3, 4[18-20, 33-34, 42-46].

Table 3. *Studies of a case report.*[18-20, 33-34, 42-46]

Study	Summary	Treatment
Williams and Johnson[18]	Case report (female); UR caused by "emotional conflicts" after emotional and sexual abuse	Psychotherapy-enabled expression of anger
Cooper[42]	Case report (female)	Reassurance, psychoeducation, and carbachol injection followed by injections of sterile water
Chapman[43]	Case study (female); childhood trauma. Patient exploited by family	Psychotherapy-subsequent enhanced confidence
Barnard et al[44]	Case report (female)	Treatment: electrical stimulus to legs and program "of verbal and nonverbalreinforcement" suggestive of assertiveness training
Bird[45]	Two cases (females)	Analytical psychotherapy-enabled to express "unacceptable aggressive rage"

Table 4. *Studies of case series.*[18-20, 33-34, 42-46]

Study	Summary	Treatment
Larson et al[33]	37 women with urinary retention and schizo-affective disorder	Psychotherapy-enabled expression of hatred and rage toward therapist or other male physicians
Barrett[34]	12 patients with UR sent for psychiatric evaluation	3 patients need hospital admission and 9 as outpatients. Bladder training, intermittent self-catheterization and, when indicated, additional "psychiatric support".
Wahl and Golden[19]	6 females Multiple "Repressed, genital sexual conflicts".	Psychotherapy and psychoeducation
Montague and Jones[20]	6 (5 female, one male)	biofeedback, behavior therapy, individual psychotherapy, group therapy, couples therapy, Biofeedback-monitored relaxation training, introduction of imagery during periods of deep relaxation.
Wheeler et al[46]	12 women with UR with psychological history	Type of psychotherapy not reported. But mentioned it should be multidisciplinary between urologist, psychiatrist, and neurologist.

Recently, sacral neuromodulation has been reported showing promising outcomes to restore micturition in females with psychogenic urinary retention[47].

A distinction must be made between Fowler's syndrome and psychogenic urinary retention differentiating the two diagnoses. Table 5 was made comparing the two syndromes. Fowler et al in 1988 was first investigated by electromyogram (EMG) activity of the striated urethral sphincter showing abnormal findings in 72% of the 48 women with idiopathic non-obstructive urinary retention[48].

Table 5. *comparison between psychogenic urine retention and fowler's syndrome(48,50)*

	Psychogenicurine retention[50]	**Fowler's syndrome.[48]**
History	Usually young females	post-menarche young women in the 2nd to 3rd decades. Painless retention with a large residual volume of urine (> 1000 ml.
Triggering event	Childhood trauma, sexual abuse, emotional conflicts, psychiatric illness	Surgery, acute illness. Variable association with PCOS. Pain or difficulty most commonly when removing the catheter.
Urological, gynecological, and neurological assessment (49)	No medical, or surgical intervention, Absence of organic causes	No identified structural or neurological cause of urinary retention. Variable association with PCOS
Urodynamic	Unremarkable	Large bladder capacity. Decreased bladder sensation. Reduced or absent detrusor contraction. Reduced or absent flow. Open bladder neck with narrowing in the mid-urethra/ ballooning of the proximal urethra.
Concentric needle urethral sphincter electromyography	Unremarkable	Complex repetitive discharges and decelerating bursts in urethral sphincter
Urethral pressure profilometry	Unremarkable	Increased maximal urethral closure pressure.
Trans-vaginal sphincter ultrasound	Unremarkable	Increased sphincter volume.

Fowler's syndrome is a rare urological diagnosis, that is not fully understood. The exact mechanism of fowlers syndrome is affected by several factors that contribute to its development. The etiology of Fowler's syndrome likely occurs due to the up regulation of spinal enkephalins, naturally occurring opiates, which reduce bladder sensation and the negatively feedback to the sacral nerve roots[3].

The urethral sphincter sympathetic tone then remains elevated, and the periaqueductal grey (PAG) and pontine micturition center (PMC) remain inactive, even with large volume bladder filling[3]. This leads to the inability to relax appropriately during voiding. Hormonal imbalances were also seen to play a role in altering the function of the external urethral sphincter, such as in polycystic ovarian syndrome[49]. These patients have been found to improve drastically with sacral neuromodulation rather than medications. Our main limitation of our study is the paucity of the studies in literature of the pathophysiology and the approaches of management of psychogenic urinary retention in females.

5. Conclusion

In conclusion, our research on psychogenic urine retention in females is to shed light on this complex disorder. It should be deemed if neurological and urologic workups are unremarkable. It is the diagnosis of exclusion, when all workup has been done and have excluded all potential causes, with the presence of past psychological trauma.

It commonly presents in young females with psychiatric abnormalities, such as childhood trauma, sexual abuse, and emotional conflicts. The onset of urinary retention may manifest at any period time even in a remote history of psychological trauma without a known time frame. Many challenges have been found while managing such patients. A combined multidisciplinary approach to this problem is usually the best method of management.

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