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RESEARCH ARTICLE

A REVIEW ON CHRONIC MALE UTI AND ITS IMPACT ON MENTAL HEALTH

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Abstract

The most common bacterial infections in men are Urinary Tract Infections (UTI). 30-50% of men who get UTI will have a recurrence within 6-12 months despite receiving acute therapy. There are several organisms that can cause these, but Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis, Enterococcus faecalis, and Staphylococcus saprophyticus are the most prevalent ones. Other conditions include prostatitis, epididymitis, orchitis, cystitis, and urethritis. Men are susceptible to this, and it frequently significantly lowers quality of life. The severity of the discomfort, urinary problems, and quality of life restrictions were some of the outcomes. The personal psychosocial effects of male UTI recurrence are the main topic of this review. This research offers a review of chronic male UTI and its impact on Mental health. This study also looks at the several psychosocial factors such as pain, severity, and urine sensations may influence their quality of life.

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Introduction:-

One of the most prevalent bacterial illnesses, UTI impacts 150 million people annually worldwide [1-3]. There were an estimated 10.5 million office visits for UTI symptoms in 2007 (representing 0.9% of all ambulatory visits) and 2-3 million visits to emergency rooms [4]. Presently, the economic consequences of these infections comprising effects on mental health, quality of life, medical expenses and lost workdays etc. UTIs are a major source of morbidity in men of all ages such as elderly men and young boys. Frequent relapses, pyelonephritis with sepsis, renal injury and difficulties brought on by repeated antibiotic usage, like high-level antibiotic resistance are examples of serious consequences [5-10].

UTIs can be classified as simple or complicated. Uncomplicated UTIs, also known as lower UTIs (cystitis) and upper UTIs, often affect people who are normal and do not have anatomical or physiological disorders of the urinary system [11]. Male gender, a past UTI, sexual activity, epididymitis infection, and other risk factors are all linked to cystitis. Infections with calculi, indwelling catheters, or other drainage devices are examples of foreign bodies that can cause complicated UTIs. Urinary obstruction or retention caused by prostatitis, implanted medical catheters are responsible for 70–80% of complex UTIs among men.

Regarding the psychological impact of recurring UTI infections, this research offers a review of chronic male UTI and its impact on Mental health. It has been well known that an acute UTI is associated with a decreased quality of life (QoL) [12-14]. However, there are currently no comprehensive reviews on the relationship between men's QoL

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and chronic recurrent UTI. The authors looked for papers published over the last eight years using the search terms mentioned above. Very few studies were found after the search. Sadly, there weren't many articles published in this study.

Urinary Tract Infection:

Both Gram-negative and Gram-positive bacteria, as well as some fungi, are responsible for UTIs as shown in figure 1. Uropathogenic *Escherichia coli* is the most frequent culprit behind both simple and complex UTIs [15]. Antibiotics are frequently prescribed to people who have symptoms of UTIs; however, these medications have been shown to permanently change the normal microbiota of the urinary tract and gastrointestinal tract and to promote the growth of multidrug-resistant microorganisms. The possibility of being colonized by multidrug-resistant bacteria can rise due to the existence of gaps that the changed bacteria is no longer able to fill [16]. A crucial point is that the "golden age" of antibiotics is coming to an end, necessitating the development of more effective alternative therapies.

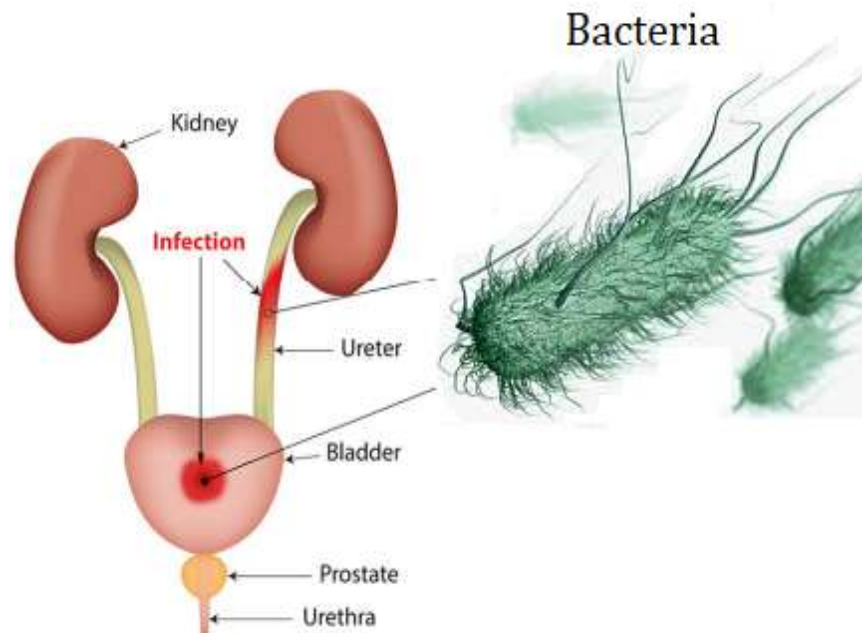


Figure 1:- Urinary Tract and its infection by Bacteria.

In recent research [17,18], uropathogens from the pee of males with symptomatic UTIs were directly analysed using RNA sequencing. These research findings have been essential in helping us recognize the molecular specifics of how bacteria adhere, populate, and modify to the nutritious restricted urinary environment, escape immune recognition, and persevere and spread in the urinary tract. They also work in conjunction with basic science and enhanced animal models. Due to the major virulence factors that these investigations have identified, it is now possible to avoid and combat the pathogenic mechanisms that are crucial in UTIs. In this Review, chronic male UTI and its impact on Mental health is studied. This study also looks at the several psychosocial factors such as pain, severity, and urine sensations may influence their quality of life.

Mental Health:

Mental health affects intellect, emotion, and behavior and includes psychological, cognitive, and social well-being. It also affects how someone responds to stress, interacts with others, and makes decisions [10]. There are several different types of psychiatric conditions, including depressive disorders (such sadness or bipolar disorder), mental illnesses, personality disorders, and psychotic disorders (such as schizophrenia). Changes in behaviour can include restlessness, disorientation, hallucinations, and agitation. These are but a few of the UTI symptoms, which might differ from person to person irrespective of elements like age.

UTI's Impact on quality of life and daily activities

Intimate and social connections, self-esteem, and ability to work are all negatively impacted by recurrent UTI, although social function may be significantly worsened than functional ability. Sleeping, sex, training, working, and

sharing time with friends and family were all reported to be negatively impacted by the UTIs. Workforce development and presenteeism (going willingness to work) were both hampered by UTIs. The substantial health and medical costs associated with having recurring, simple UTIs were also mentioned by the authors of the study. Visits to the emergency department and the administration of antibiotics are examples of direct costs. Absenteeism-related lost revenue is one example of a variable costs. The UTIs and its phycological impacts on men were shown in table 1.

Urinary incontinence cramps, as well as pelvic and leg pain, were among the many generalized, incapacitating sensations that several men regularly reported [16]. Moreover, relatively inconsequential indications like increased urine urgency and intensity were explored in light of their ability to disturb sleep cycles, generate worry, and result in long-lasting weariness. They also covered the similarly wide-ranging implications of recurring UTI on day-to-day life, such as job with associated financial and social repercussions and lack of interest in extracurricular activities [19]. The respondents found it annoying that UTI infections made daily life more difficult. The constant need to be close to a restroom made it impossible to carry out daily tasks, which resulted in irritation, worry, and shame. High degrees of stress and annoyance resulted from missing out on job and education. Feelings of powerlessness brought on by a loss of control resulted by disruptions to normal routine.

Table 1:- UTIs and its phycological impacts on men.

	Daily activities	Relationships	Finances	Sleep
Participant experience	frequent bathroom visits Pain/discomfort Necessity for medical/pharmacy visits Need to always be in or near a bathroom	Fatigue Pain Irritable	HCP consultation fee Medicine price Expenses for over-the-counter medications. Loss of earnings	Often waking up during the night to use the restroom Sleep disturbance from pain/burning
Impact on life activities	Inability to go about daily duties (e.g., college, work, family life) disruption of the regular schedule	Avoiding closeness Reluctance to share with others Staying away from social events Changing plans	Prioritizing which expenses are necessary versus optional may be necessary.	Fatigue Irritable Lack of drive
Predominant emotions	Annoyance Vulnerability Lack of control	Being alone Awkwardness	Concern about being able to pay for other living expenses	Disappointment Difficulty staying awake Fear of disappointing people

Effects on relationships and sleep

UTIs also had psychological consequences in the relationship context as well. Majority of participants started to feel unable or reluctant to engage or discuss their observations with others, which reduced interaction and closeness [20]. The need for recurring toilet breaks when visiting friends caused arrangements to be cancelled, and problems in social contact led to pullout and solitude. Respondents' negative mood furthermore led to adverse feelings when conversing with each other, resulting in a sense of separation. Respondents mentioned adverse effects on intimate relationships and affection as a result of low emotions. Staying away from sex due to medical advice or illnesses caused anxiety and dissatisfaction. Some respondents additionally mentioned nervousness or the companion incorrectly believing they are to blame. Eventually, sleep disturbance caused by irritation and waking up in the night tends to result in fatigue, mood swings, and decreased motivation, leading to a failure to complete day-to-day duties

and substantial reductions in productivity level. These negative effects on productivity resulted in emotions such as anger and worthlessness. Respondents also characterized mood swings as a result of sleep deprivation, which impacted their connections with other people and led to revocation. "Sleeplessness is a significant issue that impacts my capacity to perform daily tasks" one respondent said

Many respondents who had frequent UTIs expressed deep disappointment. When symptoms appeared, they soon realized that they had a UTI. Because these attendees were cognizant of the UTI procedure and effect, they viewed the UTI as an irritation or distress. Attendees who've been new to UTIs felt more surprise, concern, and afraid in responding to early symptoms than attendees who had further UTIs. This was due to a lack of consciousness or anticipation of what was occurring and what was to come. Few attendees sought medical attention as shortly as they noticed illnesses. The disadvantage or requirement of taking off from work to see a physician, wishing to prevent the unhappiness of a doctor's visit, desiring to figure out the issue independently, holding out hope the situation will indeed settle without antibiotics, and unwillingness to take antibiotics except if absolutely necessary were all obstacles to asking for help.

Desperation and anger results from treatment failure.

Most attendees who encountered reinfection reported coming back to the same doctor or health center where they received their initial diagnosis. Some doctors provided a basic elaboration of resistant strains when trying to explain reinfection. Attendees were relieved to have an elaboration for relapse and were inspired to get another antibiotic to relieve symptoms. Attendees who encountered treatment failure characterized a wide range of emotions, such as anguish that the antibiotic was not able to work, distress at "heading around and in gatherings," sadness that diagnosis was unsuccessful, increased anxiety since nothing appeared to be functioning, and frustration at returning to the physician.

Conclusion:-

UTIs are a major source of morbidity in men of all ages such as elderly men and young boys. Frequent relapses, pyelonephritis with sepsis, renal injury and difficulties brought on by repeated antibiotic usage, like high-level antibiotic resistance are examples of serious consequences. In this survey, various depression and anxiety effects were discovered to anticipate pain intensity, urinary severity of symptoms, and QoL impediments in male patients with recurrent UTIs. This study suggests measures that physicians can take when communicating with attendees who have UTIs. Physicians can help individuals with UTIs recognize how prevalent the situation is by taking into account clients' findings of exclusion and embarrassment. These findings add to the growing body of evidence that depression and anxiety are not only a result of chronic pain, but also play a role in its presentation.

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