

Integrate Complementary and Alternative Medicine into Recurrent Urinary Tract Infection Care

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Introduction

- One in three women who are older than twenty years-old are likely to experience clinically significant urinary tract infections (UTIs).
- Clinical manifestations usually include frequency, urgency, dysuria, and suprapubic, and lower back pain. Hematuria, cloudy urine, and flank pain are more serious symptoms.
- The updated 2010 Infectious Diseases Society of America guidelines recommended three first-line therapies for uncomplicated cystitis: nitrofurantoin, trimethoprim-sulfamethoxazole (TMP-SMX), and fosfomycin, while fluoroquinolones (FQs) remained as second-line agents.

Introduction

The interest in complementary and alternative medicine (CAM) among patients is high, and the number of effective treatments available for UTIs are few.

Complementary and alternative medicine (CAM) is defined as non-mainstream practices used together with conventional medicine (complementary medicine), or in place of conventional medicine (alternative medicine) (NCCIH, 2017).

Our goal was to conduct a literature review to evaluate the effectiveness and limitations of CAM in the prevention and treatment of UTI recurrence.

Natural therapies

Cranberry

D-mannose

Other natural products

Hydration, and diet therapies



Cranberry

Cranberry contains Type A pro-antho-cyanidins which can prevent adherence of bacteria to the bladder epithelium.

a database review of 4,473 participants shows no significant improvement in UTI treatments while using cranberry juice compared to the control group.

D-mannose

D-mannose is a natural sugar, which receptors are located on the uroepithelial cells that line the urinary tract.

Many researchers show that there is significant decrease of rUTIs when patients use D-mannose compared to those who either don't use D-mannose or those who use other prophylaxis.

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Other natural products

Vitamin C can lower the urine pH along with playing a role in bacteriostasis, but there is no convincing data that this literature review uncovered to suggest that Vitamin C use would decrease the risk of rUTIs.

Nutraceuticals, L-arginine, and quercetin are also used to relieve the symptoms and signs of rUTIs due to their anti-inflammatory, antioxidant, and immunoregulatory properties.

There are Chinese herbs, such as the Chinese formula Bazheng Power, that appear to be a good alternative option for rUTI treatment.

Uva ursi (bearberry) is widely accepted in Europe for the prevention of rUTIs due to diuretic, urinary antiseptic, astringent, and anti-inflammatory properties.

Hydration, and diet therapies

Clinical efficacy of dietary manipulation, such as limitations on tomato products, soy products, and spices exhibits an improvement of cystitis patients.

Regardless of using increased fluid intake to treat acute episodes of UTIs, hydration would prevent retrograde migration of microbes by increasing urinary output. However, it may lead to overactive lower urinary tract symptoms during the acute UTI.

Manual healing

Acupuncture
 Massage and touch
 therapies
 Yoga
 Reflexology



Acupuncture

This Chinese medical practice uses thin needles to stimulate specific points in the body, thereby regulating the flow of qi along the meridians in the body.

A systematic review indicates that acupuncture may have a potential therapeutic effect in decreasing postvoid residual urine volume for chronic urinary retention.

There are five main acupoints used for patients with urinary diseases' qiyang deficiency. Stimulating these points on women with UTIs show far fewer episodes of rUTIs than for women who did not receive this treatment.

Acupuncture also provides analgesic action that could relieve the pain/discomfort caused by rUTIs without complications and adverse effects. The mechanism is thought to be a rebalance of energy flow, increased endorphin secretion, and pain ablation by stimulating A delta sensory fibers, which inhibit C fibers.

The Percutaneous nerve stimulation by acupuncture shows an improvement in decreasing the frequency and urgency of perineal pain or suprapubic pain with less complications

Massage and touch therapies

• Massage and touch therapies do not directly benefit rUTIs, however, there has been evidence to suggest that massage and touch therapies can increase lymphatic drainage and decrease the incidence of muscle contractions.

• The transvaginal massage can relieve pain symptoms, and whole-body massage may down regulate the influence or stress and negative control of the body and thereby benefit rUTI patients.

• Myofascial physical therapy has been introduced to bladder pain syndrome patients. The providers massage connective tissue over the trunk, thighs, and buttocks. The results exhibit a significant reduction in pain, urgency, and frequency.



Yoga

- There is good evidence to support the use of yoga breathing, relaxation, and muscle control techniques, which may assist in the strengthening of the pelvic floor.
- Yoga also promotes mindfulness and nonjudgemental acceptance of feelings and thoughts related to psychological stress. As a result, yoga demonstrates a reduction of stress-induced rUTI urge symptoms.
- Yoga has been shown to reduce inflammation and promote sympathovagal balance, which can benefit rUTI long-term management



Reflexology

- Reflexology is based on the premise that there are zones and reflexes in different parts of the body that correspond to all parts, glands, and organs of the entire body.
- The abdominal area includes the kidney and adrenal and is connected to the arch of the feet. The reflexology method would massage these areas of the feet, from medial to lateral. It is asserted that massaging these areas can lead to increased blood flow to the kidneys in order to maintain filtration with increased urine flow.
- Self-administered foot reflexology provides a stimulation of the urinary reflex associated with the ureter, bladder, salivary tube, deferent duct, uterus, urethra, and vagina. It therefore has the potential to manage rUTIs without adverse effects.
- Many studies have found that reflexology can provide a significant improvement in urinary symptoms as assessed by the American Urological Association Symptom Score scale



Other CAM approaches

- Aromatherapy: Aromatherapy has been evaluated on anti-bacterial, anti-viral, anti-inflammatory, vasodilation, and boosting immune function.
- Music therapy: Aesthetic pleasure acknowledged by the right brain causes the body to secrete anti-inflammatory substances, such as endorphins.
- Biofeedback: It has been introduced for urinary symptoms management. This approach could manage pain or muscle spasms by charting muscle activity on a computer and using visual feedback to achieve conscious control over the muscles.
- Meditation, prayer, and other spiritual practices: Who integrate these practices into daily life have better coping skills with stress and boosted immune function.
- Ayurveda and Unani: They may assist rUTI management. However, there are not many scientific research studies to support them.


