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.

Complementary and alternative medicine (CAM) is defined as a non-mainstream practice 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 rUTI relapse and recurrence.
Natural therapies

Cranberry
D-mannose
Other natural products
Hydration, and diet therapies

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

A database review of 4,479 participants shows no significant improvement in UTI treatments while using cranberry juice compared to the control group.

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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.

Nutrients, 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 Powder, 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.

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.
### 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 indicated 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 disease: qi/yang deficiency. Stimulating these points on women with OABs show fewer episodes of OAB than for women who did not receive this treatment.

Acupuncture also provides analgesic action that could relieve the pelvic discomfort caused by OABs without complications and adverse effects. This 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 OABs, however, there has been evidence to suggest that they can help to increase lymphatic drainage and decrease the incidence of muscle contractions.

Transcutaneous massage can relieve pain symptoms, and whole-body massage may down-regulate the influence on stress and negative control of the body and thereby induce physiological changes.

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

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Manual healing

- Acupuncture
- Massage and touch therapies
- Yoga
- Reflexology
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 non-judgmental acceptance of psychological stress. As a result, yoga demonstrates a reduction of stress-induced UTI symptoms.

Yoga has been shown to reduce inflammation and promote sympathetic balance, which can benefit UTI long-term management.

Reflexology

Reflexology is based on the premise that there are reflex zones and reflexes in different parts of the body that correspond to all parts, glands, and organs of the entire body. The reflex area includes the hand and foot reflexes and can be used in the face. The reflexology method would massage these areas, which are believed to be connected directly to the respective internal body parts. Self-administered foot reflexology provides a stimulation of the ureter, bladder, fallopian tube, deferent duct, uterus, urethra, and vagina. It therefore has the potential to manage UTIs 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, vasodilator, and immune boosting benefits.
- 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 records muscle spasms or muscles tension on a computer and using visual feedback to achieve conscious control over the muscles.
- Meditation, prayer, and other spiritual practices: Those that integrate these practices can assist in reducing stress and improving general function.
- Ayurveda and Unani: They may assist UTI management. However, there are limited scientific research studies to support these.
The health provider is still the first one to educate the patient and guide them. The value of integrating multiple CAM approaches could benefit UTI patients. Initiating a conversation about CAM before other therapies fail may be more helpful. Patients with rUTIs may be able to practice multiple CAM therapies along with consultation with attending physicians.

References