

Recurrent urinary tract infection in women: can cranberry prevent it?

Madam, urinary tract infection (UTI) refers to the infection of the kidneys, bladder, ureters or urethra. Three episodes of UTI in the last one year or two episodes in six months is termed as recurrent UTI.¹ 60% of women experience UTI at some time in their life and a third of them experience recurrences most commonly occurring in the age groups of 25-29 years and more than 55 years.¹ Gram negative bacteria, mainly *Escherichia coli* account for more than 70% of the uncomplicated UTI and gram positive bacteria including *Enterococcus* species, *Staphylococci* and *Streptococci* account for 5-15% of the cases.²

Main strategy in the prevention of recurrent UTI is the use of low dose antibiotics like Ciprofloxacin, Trimethoprim and Nitrofurantoin.¹ Due to increase in antimicrobial resistance² other avenues of prevention like probiotics, vaccines, local estrogen therapy and cranberry products are being investigated.

Cranberry (*Vaccinium macrocarpon*) is a North American folk remedy considered to be recommended for prophylaxis of recurrent UTI since late 1990s.³ Cranberry contains condensed tannins (proanthocyanidins) which inhibit bacterial cell wall synthesis and cellular expression of adhesion molecules, thus preventing *E-coli* and other gram negative pathogens to adhere to the uroepithelium.³ Lignoberry and blueberry are of unknown prophylactic value in this regard.³

Systematic review of ten studies has reported that use of cranberry product for 12 months as compared to placebo/control significantly reduces the risk of UTI by

65% (95% CI: 0.46-0.90).⁴ Cranberry products were found to be more effective in women with recurrent UTI than in elderly men or patients requiring catheterization.⁵ However this evidence comes from work carried out on Western population. No such studies have been conducted in South Asia to date to the best of our knowledge.

Cranberry products can lead to side effects like gastrointestinal intolerance and weight gain pertaining to high caloric load in cranberry products.⁵ Its use may also not be safe in diabetics.³ Moreover, use of cranberry for prolonged periods may have problems of compliance (withdrawal rate 55%).⁵

If cranberry is to be used for prevention of recurrent UTI in women, its dose and standardization of products in the form of juice, tablet or extract has to be worked upon.

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References

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