

Cranberry products

Vaccinium macrocarpon

Also known as Cranberry, American cranberry, Bog cranberry

Cranberry products (CPs) are sold as a nutritional supplement for their antioxidant properties and for the prevention of urinary tract infections (UTIs), but what does the science say about these products?

PREPARATIONS: Various CPs are available in New Zealand, including fresh or dried fruit, juices, syrups, capsules, tablets and effervescent tablets. Whereas some products contain cranberry fruit powder alone, others claim to contain a more potent extract made from the entire fruit, skin and juice of the cranberry.

ACTIVE CONSTITUENTS: Proanthocyanidins, apart from giving cranberries their red colour, are tannins that act as a natural defence mechanism against microbes. A-type proanthocyanidins are thought to be responsible for bacterial anti-adhesion properties that prevent adhesion of *Escherichia coli* to the urothelium.

MANUFACTURER CLAIMS: CPs are claimed to prevent UTIs and to relieve the symptoms of pain and burning in cystitis. More recently, claims include protection against stomach ulcers caused by *Helicobacter pylori*, and periodontal gum disease. As an antioxidant, it is suggested that CPs support the immune system and benefit cardiovascular health. CPs are also reported to exhibit anticancer activity.

EVIDENCE FOR EFFICACY: Two 2012 systematic reviews and meta-analyses of the literature reveal contradictory findings regarding the effectiveness of CPs for prevention of UTIs. While Jepson et al. deduce no significant reduction in occurrence of symptomatic UTIs, Wang and colleagues conclude a protective effect provided by CPs. Cranberry is not shown to be effective in the treatment of established infections.

Summary Message

Although there is some evidence to suggest that cranberry protects against urinary tract infections, the literature is conflicting and strong scientific validation is missing. There is, however, minimal risk in the consumption of cranberry products and they may be a suitable alternative to low-dose antibiotics in urinary tract infection prophylaxis.

ADVERSE EFFECTS: There appears to be little risk associated with CPs, although excessive amounts are known to cause diarrhoea and gastrointestinal upset. Due to the tart nature of the fruit, most cranberry juice has added sugar; therefore, patients with diabetes should opt for low-sugar or artificially sweetened alternatives. High levels of oxalate in cranberry may increase the risk of kidney stones.

DRUG INTERACTIONS: It is suggested that CPs may interact with warfarin and/or aspirin. While case reports and studies report mixed and unclear results, it appears that normal consumption of cranberry juice poses minimal risk to patients taking warfarin. Caution should be exercised in patients who drink large amounts of cranberry juice or take supplements.

Key references

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- Horn JR, Hansten PD. Drug interactions. Cranberry juice and warfarin: what have we learned? *Pharmacy Times* online; June, 2010. [cited 2014 April 15]. Available from: <http://www.pharmacytimes.com/publications/issue/2010/June2010/DrugInteractions-0610>

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Herbal medicines are a popular health care choice, but few have been tested to contemporary standards. **POTION OR POISON?** summarises the evidence for the potential benefits and possible harms of well-known herbal medicines.