

Role of Complementary and Alternative Therapies in Infectious Disease

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KEYWORDS

• Acupuncture • Ayurveda • Complementary and alternative medicine • Homeopathy
• Infectious disease • Natural products • Supplements

KEY POINTS

- Complementary and Alternative Medicine (CAM) is increasingly being used in Western countries despite the lack of conclusive research studies.
- Several CAM modalities have only shown variable therapeutic efficacy in infectious disease management.
- Clinicians should be familiar with these therapies in order to advise patients about alternative therapeutic options when treating infections.

INTRODUCTION

Complementary and alternative medicine (CAM) therapies are terms used to signify nonmainstream medical practices. The National Center for Complementary and Integrative Health (NCCIH) uses the term “complementary” therapy when a nonmainstream practice is used with conventional medicine, whereas same the nonmainstream practice, when used in place of conventional medicine, is viewed as an “alternative” therapy.¹ Key data from the 2012 US National Health Interview Survey revealed that approximately 33% of adults and 12% of children had used complementary health approaches, similar numbers from previous survey in 2007.¹ It was estimated that Americans spent 12.8 billion out-of-pocket dollars on “natural products,” while spending 14.7 billion dollars on complementary practitioner visits.² Given the magnitude of CAM use, it is essential that clinicians are prepared to advise their patients of the benefits and potential hazards of these therapies. The NCCIH then divides the practices of CAM into 3 groups: natural products (dietary supplements as vitamins, minerals, herbs and probiotics), mind-body practices (osteopathic and chiropractic manipulation, acupuncture, massage, yoga and

Disclosure Statement: The authors have nothing to disclose.

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Prim Care Clin Office Pract ■ (2018) ■–■

<https://doi.org/10.1016/j.pop.2018.05.009>

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meditation, relaxation techniques), and other forms of therapies (naturopathy, homeopathy, Ayurvedic medicine, traditional Chinese medicine, and other traditional healings).¹

Natural Products: Supplements for Infections

There is no one product, no panacea “for what ails you” in integrative infectious disease therapy. There are only scattered randomized controlled trials to make recommendations for individual natural products in identifiable infections. The *Cochrane Database of Systematic Reviews* is a valuable source for these assessments. The data presented in **Table 1** represent and reflect those Cochrane studies and reviews.

| Table 1 Natural products | | | | |
|---|--------------------------------------|--|--------------------------------|--|
| Name | Use | Evidence | Recommendation | Notes |
| Multivitamins | Infection prevention in elderly | Systematic review ³ RCT ⁴ | No benefit No benefit | |
| Vitamin C | Viral URI Prevent/treat pneumonia | Cochrane review ⁵ Cochrane review ⁶ | No benefit Possible benefit | May have benefit where vitamin intake is low. ≥ 1 g/d has better results |
| Vitamin D | Prevent URI | Review/ meta-analysis ^{7,8} | Probable benefit | Those at risk for deficiency do better ⁷ ; conflicting findings ⁸ |
| Zinc | Viral URI | Meta-analysis ⁹ | Probable benefit | ≥ 80 mg/d |
| Garlic | Viral URI | Cochrane review ¹⁰ | Insufficient evidence | |
| Echinacea | Viral URI | Cochrane review ¹¹ | Insufficient evidence | Effect variable among spp of Echinacea |
| Ginseng | Viral URI | Systematic review ¹² | Insufficient evidence | |
| Cranberry | Prevent/treat UTI | Cochrane review ^{13,14} | No benefit | |
| Probiotics | Vulvovaginal candidiasis | Cochrane review ¹⁵ | Probable benefit | Adjuvant therapy to ABx |
| | Bacterial vaginosis | Cochrane review ¹⁶ | Insufficient evidence | |
| | Prevent UTI | Cochrane review ¹⁷ | No benefit | |
| | Viral URI | Cochrane review ¹⁸ | Possible benefit | Quality of evidence low to very low |
| | Acute diarrhea | Cochrane review ¹⁹ | Probable benefit | Unsure which probiotic spp are helpful |
| | Prevent ABx diarrhea in pediatrics | Cochrane review ²⁰ | Beneficial | Lactobacillus, Bifidobacterium, Streptococcus, Saccharomyces helpful alone or in combination |
| | Prevent <i>C diff</i> in adults | Cochrane review ²¹ | Beneficial | Helpful in groups high at risk for infection |
| | Treat <i>C diff</i> | Cochrane review ²² | No benefit | |
| | Treat <i>H pylori</i> | Systematic review ²³ | Possible benefit | In combination with ABx therapy |

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