

---

# Dietary Counseling: The Ingredient for Successfully Addressing the Use of Herbal Supplements and Probiotics in Chronic Kidney Disease

Judy Kirk and Karen S. Dunker

Globally, herbal medicines represent a \$60 billion industry, and they account for approximately 20% of the overall drug market. Herbs (or herbals) that improve the taste of foods as flavor enhancement spices can generally be used safely by the CKD patient population. However, many herbals are sold as dietary supplements for medicinal use, and these are regulated as foods not drugs, thus allowing herbal supplements to be sold without premarket evaluation or approval by the Food and Drug Administration. In the absence of required testing, many herbal supplements are manufactured inconsistently with wide variations in composition. It is essential for the nephrology practitioner to assess CKD patients regarding their use of these products to understand their risks and benefits and to educate patients and families. This article will discuss some of the more commonly used products and their potential positive and adverse effects on CKD patients.

© 2014 by the National Kidney Foundation, Inc. All rights reserved.

**Key Words:** Herbal supplements, Probiotics, Counseling, Chronic kidney disease, Complementary or alternative medicine

## Introduction

With advertisements constantly offering more energy, arthritis relief, or the solution for any of a number of other complaints, is it any surprise that the general population and the CKD population, in particular, turns to complementary or alternative medicines (CAMs) for symptomatic relief? A 2007 study of the CKD 5D (dialysis) population determined that 18% of the studied sample used herbals, 63% would try them, and 19% would never use them.<sup>1</sup> In 2002, 25% of the US population reported using herbals and dietary supplements, with up to 80% use in 2006.<sup>2</sup> Globally, more than \$60 billion is spent annually on complementary or alternative medicines.<sup>3</sup> The use of herbal products is likely under-reported because patients do not consider these products as “medicines” and often fail to report them. Over-the-counter preparations are often more commonly used than the practitioner believes.<sup>4</sup>

In addition to herbals, probiotics are often used for digestive health. With compromised immune systems, CKD patients are often prescribed antibiotics and subsequently develop an iatrogenic diarrhea. Probiotics are often consumed daily for perceived health benefits such as longevity and digestive health. Benefits of probiotics have been touted for disorders of the gastrointestinal (GI) tract, prevention of diarrhea caused by some pathogenic bacteria and viruses, antibiotic-associated diarrhea, *Helicobacter pylori* infection and its complications, inflammatory bowel diseases and bowel syndromes, cancer, constipation, mucosal immunity, allergies, eczema, cardiovascular disease, urogenital tract disorders, bacterial vaginosis, yeast vaginitis, and urinary tract infections. The number of herbals on the market is too numerous to count, and they are often found in multiple forms: tea, extracts, capsules, pills, and powders. Probiotics can be a single compound or in combination with foods, beverages, and oral and topical medications. The herbals and probiotics reviewed in this article were chosen after an extensive

search to find the most frequently used products. Discovery was conducted by several means: Internet search, visits to health food stores specializing in alternative therapy, soliciting best seller products from companies, and patient interviews. It is notable that each herb may have multiple names. Consequently, a review of 30 herbals required many more supplements to be reviewed.

## Definition of Herbals and Probiotics

Herbs are derived from plants, and different plant parts may be used in herbal supplements. Herbs are generally safe when used as a spice or seasoning in food preparation but become more problematic when compounded as a medicinal herbal product. These medicinal herbs are generally marketed as dietary supplements containing biologically active constituents.

The World Health Organization has defined probiotics as “live organisms which when administered in adequate amounts confer a health benefit on the host.”<sup>5</sup> Categories of probiotics, simple or composite, can include bacteria such as lactic acid bacteria, *Escherichia coli* strains such as Nissle 1917, and yeast species, including *Saccharomyces boulardii*, among others (Table 1). These agents may be beneficial to bodily health, and the criteria for designation as a probiotic are: full identification of the organism's genus, species, and strain; safety for consumption; the

---

From Outpatient Dialysis, Rochester General Hospital, Rochester, NY.  
Financial Disclosure: The authors declare that they have no relevant financial interests.

Address correspondence to Judy Kirk, MS, RD, CDN, CSR, Rochester General Hospital, 33 Valley Stream Road, Penfield, NY 14526. E-mail: [judy.kirk@rochestergeneral.org](mailto:judy.kirk@rochestergeneral.org)

© 2014 by the National Kidney Foundation, Inc. All rights reserved.

1548-5595/\$36.00

<http://dx.doi.org/10.1053/j.ackd.2014.05.001>

organism's ability to survive acid and bile tolerance in the intestinal transit; ability to briefly colonize the intestine and adhere to mucosal surface; documentation of health effects of the organism; and stability of the organism in storage. Probiotics are nondigestible food ingredients that stimulate the growth or activity of bacteria in the GI tract (Fig 1). These agents, including lactulose, inulin, psyllium, and oligosaccharides, are found in onions, garlic, asparagus, leeks, artichoke, bananas, tomatoes, wheat, oats, soy beans, and other plants.

### Efficacy

Very few studies have been conducted to evaluate the efficacy of herbal products in the general population and even fewer in the CKD population.<sup>6</sup> The information presented here reflects studies done in the general population without respect to the stage of CKD. Currently, research regarding the efficacy and dangers of complementary medicines and herbals within the general population represents the only resource for the CKD population.

The National Institute of Environmental Health Science has identified certain herbs to be part of the National Toxicology Program (NTP) (Table 2). Selection for the NTP program is due to popularity of the herbal, biologically active constituents, and therefore, closer monitoring is warranted for study by the NTP. The NTP focuses on the characterization of potential adverse health effects and toxicity, with short- and long-term use. Evaluations include physicochemical characterizations of herbal materials and constituents, in vivo laboratory toxicological studies, mechanistic investigations, pharmacokinetic studies, and in vitro models, and these are carried out to properly evaluate biologic interactions.<sup>7,8</sup>

Some herbals have documented evidence of possible effectiveness. Milk thistle, *silymarin*, may be effective in easing symptoms of allergic rhinitis.<sup>9</sup> Turmeric may be effective in relieving osteoarthritis.<sup>10-12</sup> Ginger also has some effectiveness for relieving an upset stomach, motion sickness, and nausea.<sup>13</sup> The use of ginger harkens back to antiquity. Presently, ginger is also being studied as a treatment for hip and knee pain. Preliminary data report that it is as effective as ibuprofen.<sup>14</sup>

*Astragalus* is currently under investigation by the National Center for Complementary and Alternative Medicine as an enhancement to support the immune system.<sup>15</sup> Rat data also reveal antifibrotic effects of *Astragalus* and *Angelica sinensis* resulting in decreased protein excretion and improved kidney function.<sup>16</sup>

Psyllium is an herb commonly found in over-the-counter bulking agents and is used to alleviate constipation. Recommendations are for limited use, less than once weekly; however, many patients use it daily. Another common

herb for constipation is senna. Senna is a Food and Drug Administration–approved, nonprescription medication and the active ingredient in many over-the-counter laxatives. Although effective as a nocturnal medication, it also has a recommended duration of use of less than 1 week. *Triphala* is often used by vegetarian patients as a laxative and “cleansing agent” but without sufficient data to support effectiveness.<sup>15</sup>

Although kava has some potential effect(s) for relieving anxiety, it is not safe and has been linked to liver damage.<sup>17</sup> Bilberry has been studied and found to be possibly effective in improving retinal blood circulation.<sup>18</sup> Black cohosh is used in postmenopausal women for symptoms such as hot flashes.<sup>19</sup> It is available commercially as a root extract. Saw palmetto was originally touted as a treatment for benign prostatic hypertrophy. However, trials in 2006, 2009, and 2011 found it no more effective than placebo.<sup>20</sup> After preliminary positive results, National Center for Complementary and Alternative Medicine is researching the effect of saw palmetto extract on prostate cancer cells.<sup>21,22</sup> Recently published trials showed a positive effect for the use of pycnogenol in patients with chronic venous

insufficiency.<sup>23</sup> Pycnogenol appears to confer the venous walls a greater degree of “tonic recovery,” thus decreasing leg pain because of circulatory issues and fluid retention. Pycnogenol is also under trial for retinal circulation problems and retinal diseases and hypertension.<sup>24,25</sup>

Ginseng is widely used in both the US population and worldwide. Ginseng has 3 major compounds, each

differing in effectiveness and safety. It is vital to know what type of ginseng is used to determine effectiveness. There are 2 main forms: American and Asian. Because the dose of each is very different (American, 3 g/d; Asian, 0.2 g/d), it is vital to identify the source of the ginseng used. Ginseng is most often used by patients for diabetes, respiratory tract infections, and cognitive function. Side effects including GI symptoms, insomnia, tachycardia, and vaginal bleeding, and psychiatric effects should alert the practitioner to caution patients in its use. In addition, Ginseng has drug interactions with antidiabetic medications, warfarin, and immunosuppressive medications.<sup>26,27</sup> Panax ginseng extract, often promoted in runners' magazines, may decrease symptoms of the common cold, whereas the combination of panax ginseng and ginkgo leaf may improve memory, thinking, and concentration for those in their 40s and 50s. However, studies are small and inconclusive, and the side effect profile of panax ginseng is extensive. An extract of American ginseng is found in over-the-counter cold medications, and claims have been made that it may lessen the frequency and/or duration of cold

#### CLINICAL SUMMARY

- Herbal and/or alternative/complementary medications are commonly used by the general population, and this is true of patients with CKD.
- Herbal and/or alternative/complementary medication composition is not as stringently regulated as Food and Drug Administration–approved compounds.
- Substantial, serious adverse events may result from complementary medicine administration, and health care providers must determine their use in CKD patients.

Download English Version:

<https://daneshyari.com/en/article/3846472>

Download Persian Version:

<https://daneshyari.com/article/3846472>

[Daneshyari.com](https://daneshyari.com)