Is Self Care the Best Care?

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What's in a Name?

- Nutraceutical: a food stuff (as a fortified food or dietary supplement) that provides health benefits
  - Fortified cereals
  - Vitamins/mineral supplements
  - Energy drinks/tablets
  - Probiotics
  - Other supplements – enzymes, extracts, etc.

What about Dietary and Herbal Supplements (DHS)?

- History of the Food and Drug Administration (FDA)
- 1990 - Nutrition Labeling and Education Act
  - Labeling required for health claims to be consistently labeled
- Prior to 1994, supplements were held to standards of other foods

Dietary Supplement Health and Education Act (DSHEA) 1994

- Redefined "dietary supplement" as a "dietary ingredient" that was intended to supplement the diet
  - a vitamin,
  - a mineral,
  - an herb or other botanical,
  - an amino acid,
  - a dietary substance for use by man to supplement the diet by increasing the total dietary intake (e.g., enzymes or tissues from organs or glands), or
  - a concentrate, metabolite, constituent or extract.

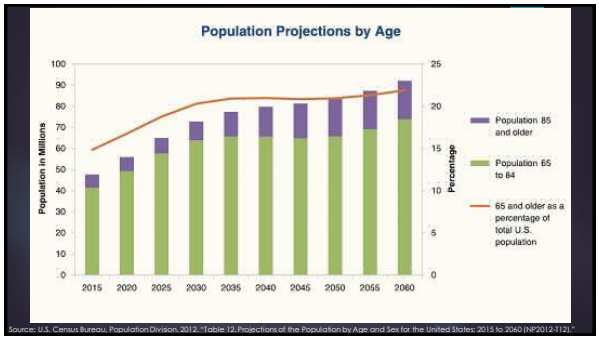
Since DSHEA

- Manufacturers are **not** **responsible** for making sure products are SAFE or EFFECTIVE
  - **"This statement has not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease"**
- Current Good Manufacturing Practices (GMPs)
  - Focus on ensuring identity, purity, quality, strength, and composition of products

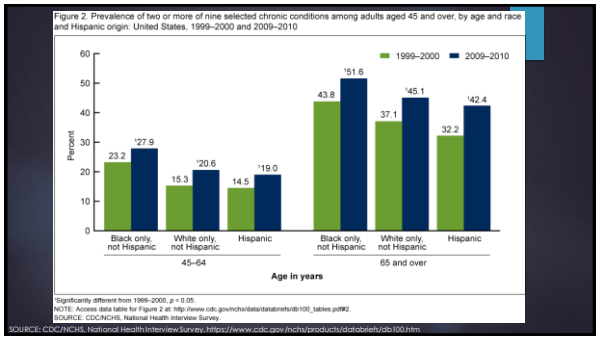
Who keeps our patients safe?

- United States Pharmacopeia
  - Voluntary participation
- Center for Food Safety and Applied Nutrition (CFSAN)
  - Monitor for false/illegal claims
  - Laboratory analysis of selected products/lots
  - Obtain information regarding ADRs
  - Inspect manufacturers/distributors

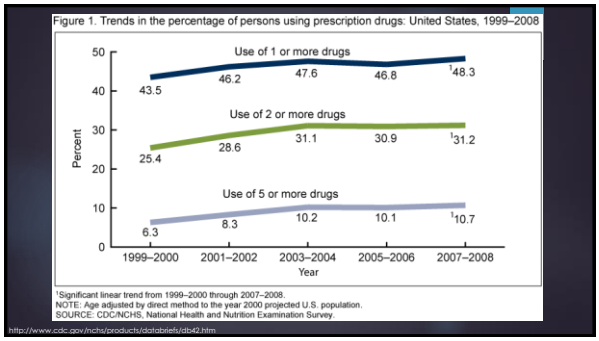
https://www.usp.org/sites/default/files/usp/document/about/public-policy/public-policy-dietary-supplements.pdf



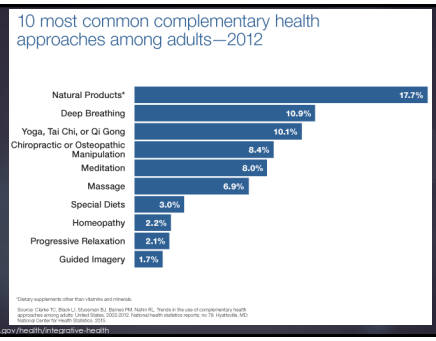
Source: U.S. Census Bureau, Population Division, 2012. "Table 12. Projections of the Population by Age and Sex for the United States: 2015 to 2060 (NP2012-T12)."



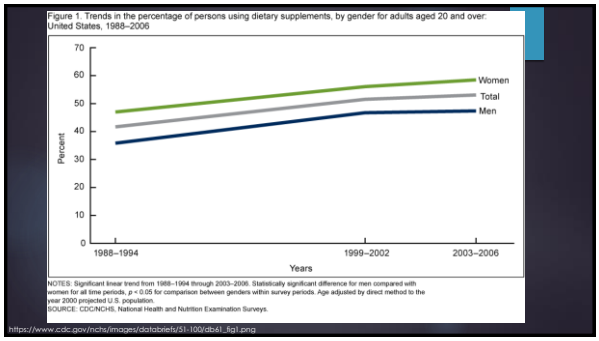
SOURCE: CDC/NCHS, National Health Interview Survey. https://www.cdc.gov/nchs/products/databriefs/db100.htm



http://www.cdc.gov/nchs/products/databriefs/db42.htm



https://nccih.nih.gov/health/integrative-health



https://www.cdc.gov/nchs/images/databriefs/51-100/db51_fig1.png

American Academy of Family Physicians

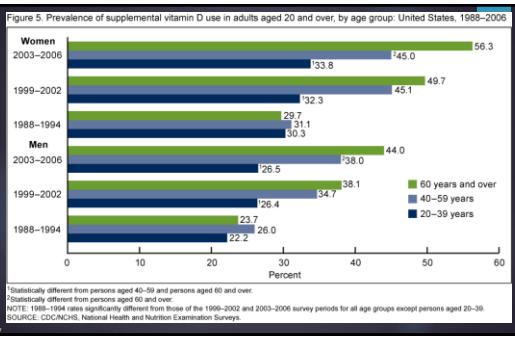
SORT: KEY RECOMMENDATIONS FOR PRACTICE

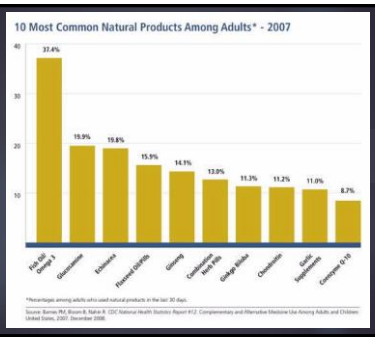
Clinical recommendation	Evidence rating	References	Comments
Clinicians should ask patients who take over-the-counter or prescription medications about their use of dietary supplements.	C	5, 46, 47	Many patients use dietary supplements, yet few discuss supplement use with their physicians.
Drug interactions with the following herbal supplements are unlikely or very limited: black cohosh, cranberry, ginkgo, American ginseng, milk thistle, saw palmetto, and valerian. With specific exceptions (e.g., ginkgo and warfarin [Coumadin]), clinicians should have low concern for drug interactions with these herbal supplements.	C	7-11, 13-17, 22, 24, 27-30, 41-43, 45	Numerous clinical trials report consistent findings.
Drug interactions with goldenseal and St. John's wort are highly likely, and clinicians should counsel patients to avoid concurrent use with over-the-counter or prescription medications.	C	12, 13, 15, 23, 44	Several clinical trials report consistent findings.

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.

What DHS Products Are My Patients Using?

- Good patient interview
  - Open-ended questions and clarify if answers are vague
  - What OTC medications do you use regularly?
  - What types of dietary or herbal supplements do you use?
  - What types of vitamins are in your cabinet at home that you use regularly?





Are DHS Safe and/or Effective??

- When supplements are used WITH or in PLACE of medicines, dangerous outcomes can occur
- Research:
  - Natural Medicines Comprehensive Database
  - National Institutes of Health

Natural Medicines Comprehensive Database (NMCD): Safety Ratings

- **LIKELY SAFE** = This product has a very high level of reliable clinical evidence showing its safe use when used appropriately. Products rated Likely Safe are generally considered appropriate to recommend.
- **POSSIBLY SAFE** = This product has some clinical evidence showing its safe use when used appropriately; however, the evidence is limited by quantity, quality, or contradictory findings. Products rated "Possibly Safe" appear to be safe, but do not have enough high-quality evidence to recommend for most people.
- **POSSIBLY UNSAFE** = This product has some clinical evidence showing safety concerns or significant adverse outcomes; however, the evidence is limited by quantity, quality, or contradictory findings. People should be advised NOT to take products with a "Possibly Unsafe" rating.
- **LIKELY UNSAFE** = This product has a very high level of reliable clinical evidence showing safety concerns or significant adverse outcomes. People should be discouraged from taking products with a "Likely Unsafe" rating.
- **UNSAFE** = This product has a very high level of reliable clinical evidence showing safety concerns or significant adverse outcomes. People should be discouraged from taking products with an Unsafe rating.

Natural Medicines Comprehensive Database (NMCD): Efficacy Ratings

- **EFFECTIVE** = This product has a very high level of reliable clinical evidence supporting its use for a specific indication. Products rated Effective are generally considered appropriate to recommend.
- **LIKELY EFFECTIVE** = This product has a very high level of reliable clinical evidence supporting its use for a specific indication. Products rated "Likely Effective" are generally considered appropriate to recommend.
- **POSSIBLY EFFECTIVE** = This product has some clinical evidence supporting its use for a specific indication; however, the evidence is limited by quantity, quality, or contradictory findings. Products rated "Possibly Effective" might be beneficial, but do not have enough high-quality evidence to recommend for most people.
- **POSSIBLY INEFFECTIVE** = This product has some clinical evidence showing ineffectiveness for a specific indication; however, the evidence is limited by quantity, quality, or contradictory findings. People should be advised NOT to take products with a "Possibly Ineffective" rating.
- **LIKELY INEFFECTIVE** = This product has a very high level of reliable clinical evidence showing ineffectiveness for its use for a specific indication. People should be discouraged from taking products with a "Likely Ineffective" rating.
- **INEFFECTIVE** = This product has a very high level of reliable clinical evidence showing ineffectiveness for its use for a specific indication. People should be discouraged from taking products with an "Ineffective" rating.

Natural Medicines Comprehensive Database (NMCD): Drug-DHS Interactions

- **Major**
  - Do not use combination; contraindicated; strongly discourage patients from using this combination; a serious adverse outcome could occur.
- **Moderate**
  - Use cautiously or avoid combination; warn patients that a significant interaction or adverse outcome could occur.
- **Minor**
  - Be aware that there is a chance of an interaction; advise patients to watch for warning signs of a potential interaction.

Aloe

- Uses
  - Oral: Osteoarthritis, IBD, fever, gastric/duodenal ulcers, constipation,
  - Topical: burns, wound healing, osteoarthritis, cold sores, moisturizer, hemorrhoids
- Safety
  - Likely safe if used topically/orally in small doses
  - Possibly Unsafe in pregnancy due to potential mutagenesis
- Efficacy
  - Possibly effective for constipation (all products removed from market 2002), and psoriasis
- Drug-drug/drug-disease considerations
  - Digoxin – contraindicated due to wasting of K by aloe, thus increasing digoxin toxicity
  - Diabetes medications – aloe MAY cause a slight hypoglycemic effect
  - Warfarin – due to potential laxative effect of oral aloe, this may increase INR
  - Renal dysfunction – may cause nephritis or renal failure, caution in these patients

Black Cohosh

- Uses
  - Menopausal symptoms, induction of labor, dysmenorrhea, PMS, fever, mild sedative
- Safety
  - Likely safe if used in appropriate doses, most studies ~6 mos
  - ADRs: Some reports of liver damage
- Efficacy
  - Possibly effective for menopausal symptoms
- Drug-drug/drug-disease considerations
  - Atorvastatin – may cause elevated LFTs or liver damage
  - CYP 2D6 substrates – black cohosh may inhibit, resulting in increased levels of: amitriptyline, tramadol, paroxetine, flecainide, and others
  - Hepatotoxic drugs – may enhance potential for liver toxicity

Blue Cohosh

- Uses
  - Inducing labor/menses, antispasmodic, laxative, colic, cramping, hiccups, rheumatic diseases
- Safety
  - Likely UNSAFE, multiple toxicities reported
  - ADRs: mucous membrane irritation, chest pain, diarrhea/cramping, hyperglycemia, CHF, neonatal MI, shock
- Efficacy
  - Insufficient evidence to rate
- Drug-drug/drug-disease considerations
  - Diabetes – may increase blood glucose levels
  - Hypertension – may increase blood pressure through vasoconstriction

Chondroitin

- Uses
  - Osteoarthritis, HIV/AIDS, ischemic heart disease, aromatase inhibitor induced joint pain, GERD, hyperlipidemia, plaque psoriasis
  - Topically: for dry eye
- Safety
  - Likely safe if used orally for 2 months – 6 years
  - Possibly safe if used intramuscularly or topically
- Efficacy
  - Possibly effective for osteoarthritis
  - Insufficient evidence to rate for dry eye, GERD, MI, psoriasis
- Drug-Drug/Drug-disease considerations
  - **Moderate** interaction with warfarin, expect to see increased INR
  - Asthma – could cause increase in exacerbations
  - Prostate CA – preliminary research suggests increase in spread or recurrence of disease

Cinnamon (*Cassia* cinnamon)

- Uses
  - Type 2 diabetes, flatulence, diarrhea, prevention of N/V, loss of appetite, the common cold, angina, impotence, abortifacient
- Safety
  - Likely safe when used orally, possibly unsafe in high doses long-term
  - ADRs: well tolerated, possible hepatotoxicity from large amounts, due to coumarin in compound
- Efficacy
  - Insufficient evidence for diabetes
- Drug-drug/drug-disease considerations
  - Hepatotoxic herbs/supplements
  - Diabetes – may lower blood glucose levels

CoEnzyme Q10

- Uses
  - Cardiac diseases (CHF, angina, dilated and hypertrophic cardiomyopathy), diabetes, hypertension, bipolar, statin-induced myopathy, macular degeneration, fibromyalgia
- Safety
  - Likely safe when used orally of doses up to 1-3mg/kg/day for up to 9 months
- Efficacy
  - Possibly effective for patients with CV disease, fibromyalgia
  - Insufficient evidence for: Hypertension, statin induced cardiomyopathy
- Drug-Drug/Drug-disease considerations
  - **Moderate** – alkylating agents, BP meds (may lower BP), and warfarin (decreased INR)
  - **Minor** - doxorubicin

Cranberry

- Uses
  - Prevention of UTI, neurogenic bladder, urinary deodorizer, type 2 DM, diuretic
- Safety
  - Likely safe when used appropriately
  - ADRs – GI/diarrhea in large doses (3-4L/day), may increase risk for uric acid kidney stone formation
- Efficacy
  - Possibly effective for reducing
  - Possibly ineffective for diabetes
- Drug-drug/drug-disease considerations
  - CYP 2C9 substrates – flavonoids in cranberry may inhibit 2C9, resulting in higher levels of amitriptyline, celecoxib, fluvastatin, glipizide, tamoxifen
  - Warfarin – cranberry may inhibit degradation, which may lead to increased INR

Echinacea

- Uses
  - To reduce the symptoms/duration of the common cold/URI, immunostimulant for other infections, migraines, dyspepsia
- Safety
  - Likely safe when used short-term orally
  - ADRs – GI upset, rash, fever, heartburn, unpleasant taste
- Efficacy
  - Possibly effective for lessening common cold symptom severity and duration, and possibly effective for preventing yeast infections (when used with topical antifungal)
- Drug-drug/drug-disease considerations
  - CYP 1A2 – inhibition by echinacea results in increased levels of caffeine, clopidogrel, diazepam, ondansetron, propranolol, verapamil, theophylline, and warfarin
  - CYP 3A4 – inhibition of intestinal 3A4 and induction of hepatic enzymes (may cancel each other out), but may alter levels of medications metabolized by this system
  - Immunosuppressants – since echinacea possesses immunomodulatory activity, it may alter the efficacy of common medications including cyclosporine, azathioprine, tacrolimus, mycophenolate, etc.

Evening primrose oil

- Uses
  - Premenstrual syndrome (PMS), mastalgia, endometriosis, symptoms of menopause, Reynaud's syndrome, MS, cancer, hypercholesterolemia, Alzheimer's, asthma, ADHD, obesity/weight loss, diabetic neuropathy
- Safety
  - Likely safe
  - ADRs – well tolerated, may increase risk of pregnancy complications
- Efficacy
  - Possibly effective for breast pain, osteoporosis
- Drug-drug/drug-disease considerations
  - Anticoagulants/antiplatelet agents/NSAIDs – may have anticoagulant effects, enhancing effects of other medications
  - Phenothazines (thioridazine, chlorpromazine, etc) – may put patients at risk for seizures

Fish Oil/Omega 3/EPA/DHA

- Uses
  - Hyperlipidemia, hypertriglyceridemia, coronary artery disease, hypertension, bipolar disorder, rheumatoid arthritis, Reynaud's syndrome
- Safety
  - Likely safe when used in doses <3g per day
  - Possibly unsafe when dietary fish oils are consumed in large amounts (especially deep sea fish)
- Efficacy
  - Effective – hypertriglyceridemia
  - Likely effective – cardiovascular disease
- Drug-Drug/Drug-disease considerations
  - **Minor** – Antiplatelet/anticoagulant medications including warfarin (increased risk of bleeding), platinum containing chemotherapy
  - **Moderate** – Antihypertensive medications (lowered BP), and contraceptives
  - Mood disorders – hypomania may result

Flaxseed/Flaxseed Oil

- Uses
  - Constipation, osteoarthritis, rheumatoid arthritis, cancers (breast/prostate), BPH, ADHD, bipolar disorder, hyperlipidemia, carpal tunnel syndrome, diabetes
- Safety
  - Likely safe when used orally for up to 6 months
- Efficacy
  - Possibly effective for carpal tunnel syndrome (topical)
  - Possibly ineffective for diabetes, hyperlipidemia, rheumatoid arthritis
- Drug-Drug/Drug-disease considerations
  - **Moderate** – Anticoagulant/antiplatelet medications, antihypertensives (lower BP)

Garlic

- Uses
  - Orally: hypertension, hyperlipidemia, coronary disease, atherosclerosis, MI, earaches, *H. pylori* infection, asthma, tuberculosis
  - Topically: tinea, onychomysosis, warts, corns
  - Other: yeast vaginitis with yogurt
- Safety
  - Likely safe when used orally (up to 7 years studied)
  - ADRs – breath/body odor, mouth/GI burning/irritation, flatulence, N/V, diarrhea
- Efficacy
  - Possibly effective for atherosclerosis, colon cancer, gastric cancer, hypertension, tinea
- Drug-drug/drug-disease considerations
  - Anticoagulant/antiplatelet drugs – enhances effects of warfarin (↑ INR) and other anticoagulants
  - Contraceptives – may decrease efficacy
  - CYP 2E1– inhibition by garlic increases levels of acetaminophen, ethanol, theophylline and anesthetic agents
  - CYP 3A4 - conflicting evidence regarding inhibition or induction – CAUTION use
  - **DO NOT GIVE:** isoniazid, NNRTIs (nevirapine, delavirdine, efavirenz), or saquinavir (a protease inhibitor), or warfarin

Ginger

- Uses
  - Motion sickness, morning sickness, dyspepsia, flatulence, CINV, RA, osteoarthritis, PONV, migraine, prevention of withdrawal from SSRI discontinuation
- Safety
  - Likely safe
  - ADRs – (at doses >5/day) abdominal discomfort, heartburn, diarrhea
- Efficacy
  - Possibly effective for morning sickness, PONV, vertigo
- Drug-drug/drug-disease considerations
  - Anticoagulants/antiplatelet agents – may ↑INR in patients on warfarin, and may interact with LMWH and clopidogrel/ticlopidine
  - Diabetes meds – may increase insulin levels and cause hypoglycemia
  - Calcium channel blockers – may have additive effect

Ginkgo

- Uses
  - Orally: Mental acuity, Alzheimer's, vascular and mixed dementia, difficulty concentrating
  - Topically: wound dressings, scabies, skin sores
  - IV: increase cerebral blood flow, improve cognition, metastatic colon cancer
- Safety
  - Likely safe if using appropriate orals (NOT seeds oral)
  - ADRs – GI upset, restlessness, weakness, spontaneous bleeding, intracranial bleed (rare)
- Efficacy
  - Possibly effective for age-related memory impairment, dementia, diabetic retinopathy, PMS, PVD, Reynaud's
- Drug-drug/drug-disease considerations
  - Anticoagulant/antiplatelet/NSAIDs drugs – decreases platelet aggregation, and may ↑ INR and risk of bleeding when combined with other anticoagulants
  - Anticonvulsants – seizures can occur to ginkgotoxin contained in seeds
  - Antidiabetics – may lower or raise blood glucose levels
  - CYP 1A2, 2C19, 2C9, 2D6, 3A4 – may alter levels of drugs metabolized by these enzymes

Ginseng

- Uses
  - Stress reliever, general tonic, stimulant, diuretic, digestive aid, anemia, diabetes, stimulating immune function, breast cancer
- Safety
  - Possibly safe when used orally short-term (4 weeks)
  - ADRs – GI, insomnia, vaginal bleeding, tachycardia, cerebral arteritis, SJS, cholestatic hepatitis, amenorrhea
- Efficacy
  - Possibly effective for diabetes (lower post-prandial glucoses), and RTI
- Drug-drug/drug-disease considerations
  - Antidiabetics – may lower blood glucose levels
  - MAOIs – theoretical interference by ginseng
  - Warfarin - ↓ INR, avoid concomitant use

Glucosamine

- Uses
  - Orally: (usually in combination with chondroitin): osteoarthritis, rheumatoid arthritis, glaucoma, TMJ, joint pain, back pain
  - Topically: (with shark cartilage, camphor, or chondroitin) for osteoarthritis
- Safety
  - Possibly safe when used short term (up to 24 weeks)
  - ADRs – mild flatulence, cramping, abdominal bloating
- Efficacy
  - Insufficient evidence to rate
- Drug-drug/drug-disease considerations
  - Diabetes – MAY increase insulin resistance or decrease insulin production
  - Chemotherapy – theoretical resistance development to etoposide and doxorubicin
  - Warfarin - ↑ INR, resulting in increases in bleeding/bruising

Green tea extract

- Uses
  - Orally: to improve cognitive function and alertness, stomach disorders, N/V, headaches, weight loss, osteoporosis, cancers, HPV, cervical dysplasia
  - Topically: soothe sunburn, poultice bags under the eyes, compress for headaches, stop bleeding of tooth sockets, green tea gum for gingivitis
- Safety
  - Likely safe when consumed as a beverage in moderate amounts
  - Possibly safe when used orally (up to 6 months) in moderate amounts (large amounts 10-14g caffeine can be fatal)
  - ADRs – N/V, abdominal bloating, flatulence, diarrhea, CNS stimulation, fatigue, insomnia, agitation, tremors, restlessness, hepatotoxicity (rare & associated with pill forms)
- Efficacy
  - Likely effective – genital warts (ointment 15% kunecatechins), mental alertness
  - Possibly effective – some cancers, hyperlipidemia, Parkinson's disease
- Drug-drug/drug-disease considerations
  - Amphetamines/stimulants – may increase CNS effects
  - Anticoagulant/antiplatelet drugs – may increase risk for bleeding due to possible antiplatelet effect. May also contain vitamin K in small amounts, and may ↓ INR
  - Contraceptive agents – may cause increased effects from caffeine in the green tea, leading to CNS effects
  - Lithium – abrupt caffeine withdrawal can cause an increase in serum lithium levels
  - Hypertensive crisis – possible with MAOIs, nicotine, ephedrine, cocaine, amphetamines, decongestants

Hawthorn

- Uses
  - Orally: CHF, coronary circulation disorders, angina, arrhythmias, to increase cardiac output, hypotension AND hypertension, anxiolytic
  - Topically: boils, sores, ulcers, itching, frost bite
- Safety
  - Possibly safe when used orally short term (16 weeks)
  - ADRs – vertigo/dizziness
- Efficacy
  - Possibly ineffective for CHF
- Drug-drug/drug-disease considerations
  - Cardiac – DO NOT give if patient is taking beta-blockers, calcium channel blockers, digoxin, nitrates, PDE-5 inhibitors, as this may result in additive effects resulting in vasodilation and hypotension

Kava

- Uses
  - Orally: anxiety disorders, stress, ADHD, insomnia, restlessness, epilepsy, depression, RTIs, tuberculosis, cancer, pain, UTIs, venereal disease
  - Topically: skin disorders including leprosy, to promote wound healing, analgesic, poultice for abscesses, mouthwash for canker sores
- Safety
  - Possibly unsafe when used orally: potential for hepatotoxicity even in short term use (6 months)
  - ADRs – GI upset, dry mouth, EPS, hepatotoxicity (banned in Switzerland, Germany, Canada)
- Efficacy
  - Possibly effective for anxiety, BDZ withdrawal
- Drug-drug/drug-disease considerations
  - CNS depressants – may have additive effects with BDZ, barbiturates
  - CYP 1A2, 2C9, 2C19, 2D6, 2E1, 3A4, p-glycoprotein – inhibition of these enzymes by kava may lead to increased levels or side effects from medications
  - Levodopa – may have decreased efficacy, as kava is a dopamine antagonist

Melatonin

- Uses
  - Orally: jet lag, insomnia, BDZ/nicotine withdrawal, tinnitus, Alzheimer's, depression, IBS, various cancers, hyperpigmentation
  - Topically: skin protectant against UV light and sunburn
- Safety
  - Likely safe when used orally and appropriately short-term (2 months). Possibly safe long-term.
  - ADRs – daytime drowsiness, mild tremor, mild anxiety, abdominal cramps, irritability
- Efficacy
  - Likely effective for circadian rhythm disorders/sleep-wake cycle disturbances
  - Possibly effective for BDZ/nicotine withdrawal, insomnia, jet lag, and cluster headaches
- Drug-drug/drug-disease considerations
  - CNS depressants – may enhance CNS depression if taken with EtOH, BDZ or other depressants
  - Anticoagulants/antiplatelet agents – isolated reports of minor bleeding and impaired prothrombin activity with taking with warfarin. Theoretical possibility of decreased platelet aggregation
  - Contraceptives may increase levels of melatonin, which may accent ADRs
  - Diabetes – may impair glucose utilization and enhance insulin resistance

Milk thistle (silymarin)

- Uses
  - Orally: liver disorders including toxic liver damage caused by chemicals, jaundice, hepatic cirrhosis, and dyspepsia, diabetes, stimulating breast milk flow, prostate cancer
- Safety
  - Likely safe when used orally and appropriately (up to 41 months studied)
  - ADRs – laxative effect, nausea, diarrhea, dyspepsia, flatulence, abdominal discomfort, anorexia. May precipitate allergy in patients allergic to ragweed, marigolds, chrysanthemums, daisies and other herbs
- Efficacy
  - Possibly effective for diabetes and dyspepsia
- Drug-drug/drug-disease considerations
  - CYP 2C9, 3A4 – inhibition of this enzyme results in altered levels of warfarin, verapamil, tamoxifen, statins, diazepam, and others
  - Estrogens/glucuronidated drugs – silymarin may inhibit beta-glucosidase, which is responsible for clearing estrogens

S-adenylmethionine (SAMe)

- Uses
  - Orally: depression, anxiety, heart disease, fibromyalgia, osteoarthritis, tendonitis, chronic lower back pain, Alzheimer's, improving mental performance, liver cirrhosis
  - Intramuscularly: injected for fibromyalgia, depression and Alzheimer's disease
- Safety
  - Likely safe when used PO/IM/IV for up to 2 years
  - ADRs – with high doses flatulence, nausea, vomiting, diarrhea, constipation, dry mouth, mild insomnia, headache
- Efficacy
  - Likely effective for depression and osteoarthritis
  - Possibly effective for AIDS myelopathy, fibromyalgia, and intrahepatic cholestasis
- Drug-drug/drug-disease considerations
  - MAOIs/Antidepressants/serotonergic drugs – additive serotonergic effects increase risk for serotonin syndrome or hypertensive crisis (pentazocine, tramadol, meperidine, dextromethorphan and antidepressants)
  - Parkinson's – SAMe methylates to inactivate levodopa, leading to increased symptoms

Saw Palmetto

- Uses
  - Orally: BPH, mild diuretic, sedative, anti-inflammatory, antiseptic, aphrodisiac, prostate cancer
- Safety
  - Likely safe when used orally and appropriately (1 year)
  - ADRs – HA, dizziness, GI complaints, postural hypotension, ejaculation disorders
- Efficacy
  - Possibly ineffective for BPH
- Drug-drug/drug-disease considerations
  - Anticoagulant/antiplatelet drugs – known to prolong bleeding time, caution in patients taking these meds
  - Contraceptives – may have antiestrogenic effects

St. John's Wort

- Uses
  - Orally: depression, anxiety, mood disturbances associated with menopause, ADHD, OCD, SAD, smoking cessation
  - Topically: bruises/abrasions, inflammation, muscle pain, burns, to speed wound healing, hemorrhoids
- Safety
  - Likely safe when used appropriately short-term (8 weeks)
  - Possibly unsafe in large doses – increased photosensitivity risk
  - ADRs – insomnia, vivid dreams, restlessness, agitation, irritability, GI disturbances, hypoglycemia
- Efficacy
  - Likely effective for depression
  - Possibly effective for menopausal symptoms, wound healing
- Drug-drug/drug-disease considerations
  - Digoxin – may lower dig concentrations up to 25%
  - Triptans + serotonin active agents + MAOIs – may increase risk for serotonin syndrome
  - CYP3A4, CYP1A2, CYP2C19– induces this isoenzymes causing altered levels of: oral contraceptives, barbiturates, benzodiazepines, cyclosporine, theophylline, fluoxetine, imatinib, MAOIs
  - Clopidogrel– may increase activity of clopidogrel by inducing conversion to the active metabolite
  - P-glycoprotein substrates – St. John's wort may induce these, which leads to decreased absorption in the gut, and potentially decrease crossing of drugs across the BBB (ketoconazole, protease inhibitors, H2RAs, diltiazem/verapamil, cyclosporine, loperamide
  - Warfarin – can decrease INR due to induction of drug metabolism

Drug-Drug Interactions (Common)

- Warfarin & other anticoagulant medications
- Antiplatelets
- Medications that are metabolized through CYP 3A4

Conclusions

- DHS are not well regulated
- Use of DHS (as self care) are increasing rapidly
- Prospective RCTs are limited
- Drug interactions may be rare, but can be severe
- Health care professionals can increase safety through increasing personal knowledge to help patients choose supplements safely

Is Self Care the Best Care?

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