Chapter 8
Herbal Therapies and Cannabis
Overview

- History of herbal medicine
- Definitions
- Common herbs for medicine
- Herbal safety
- Evidence for use of herbs
- Herbal therapy
- Herbal preparations
- Considerations for the advanced nurse practitioner (ANP) prescriber
History

- Ancient Egyptians used many herbal remedies.
- Greek and Roman herbal therapies were based on the principle of the four humors.
- United States
  - There has been significant growth in use in the past 20 years.
History (continued)

• There is a belief that herbal medicines are safer and have less harmful side effects.
• U.S. patients self-medicate and often do not tell their providers.
Herbal Medicine Definitions

- Phytomedicine is defined as “the practice of using plants or plant parts to achieve a therapeutic cure.”
- An herb is any plant part or plant used for its therapeutic value.
- Pharmacognosy is the branch of pharmacology that uses the chemicals from plants, molds, fungi, insects, and marine animals for their medicinal value.
Herbal Medicine

- Western herbal medicine
  - Primarily classified according to therapeutic properties and constituents of the plant

- Chinese herbs
  - The principles of herbal therapy based on the plant’s cycle of growth, characteristics of the plant, and the underlying condition of the individual
Herbal Medicine (continued)

- Health sustained by having a free flow of energy (Qi).
- Yin and yang
- Wind, damp, hot, cold, dry, and wet
- Herbs classified by their energies, quality, season, tastes, directions, and actions on the body
Ayurvedic Medicine

- Ayurvedic medicine is the oldest form of medicine.
- Defined as the study of life, *ayur* means “life” and *veda* means “to study.”
- Herbs are used in massage oils, food, and aromatherapy and taken orally.
In the tridosha system three doshas exist.

- **Vata (air/ether)**, which corresponds to the nervous system and movement
- **Pitta (fire/water)**, representing transformation, circulation, warmth, and digestion
- **Kapha (water/earth)** representing nourishment, solidity, and the formative aspects of tissue, fluid, and bone
The goal of therapy is to counter excess or deficiency first with food and spice and then specific herbal therapy.
Herbal Safety

- Guidelines for safe herbal practice have been established by the American Herbal Guild.
- There can be wide variations in the components of herbs based on growing conditions.
- In the United States, herbs are considered food and are not regulated by the U.S. Food and Drug Administration (FDA).
Evidence for Use of Herbs

- Natural Standard—a complementary medicine grading system
  - See: www.naturalstandard.com

- The Jadad scoring system of study quality
  - A Jadad score of 0 to 5 is given, with 5 being the highest quality study.
Evidence for Use of Herbs (continued_1)

- Natural Standard evidence-rating method graded on a scale of A to F
  - “A” indicates strong scientific evidence of the benefit of the therapy; “F” suggests strong negative scientific evidence.

- Healthnotes’ *The Natural Pharmacy*
  - Evaluates the current state of evidence regarding herbs and nutritional supplements
Rakel Evidence vs Harm Scale
• Uses the Strength of Recommendation Taxonomy (SORT) to rate the scientific evidence of integrated medicine treatments

Cochrane Database of Systematic Reviews
• The Cochrane Collaboration produces reviews of evidence
Evidence for Use of Herbs (continued_3)

- German Commission E Monographs
  - German federal organization that determines the efficacy and safety of herbs and supplements sold in Germany

- American Botanical Council
  - Nonprofit educational and research organization dedicated to the science of herbal medicine
Evidence-Based Model (EBM)

- EBM is the gold standard of care.
- Evaluating complementary and alternative medicine (CAM) therapies
  - Ayurvedic or traditional Chinese medicine (TCM) uses the properties of the whole plant synergistically with the symptoms of the patient consuming it.
  - The scientific method cannot be used to measure ideas and practices that have yet to be physically defined by Western science.
Evidence-Based Model (EBM) (continued)

• Outcomes in TCM and Ayurvedic medicine are determined largely by empirical rather than experimental diagnostic measures.
  - Example: changes in a person’s tongue coat or pulse
Western Herbs

- Anxiety: kava, mugwort, wormwood, pill-bearing spurge, and passion flower
- Insomnia: mugwort, melatonin, valerian, passion flower, and chamomile
- Depression: St. John’s wort
- Confusion and forgetfulness: ginkgo, ginseng, and chaparral
Western Herbs (continued)

- **Gastrointestinal problems:**
  - Constipation: cascara, castor bean, and senna
  - Indigestion and heartburn: caraway, licorice, and papaya enzyme

- **Pain:**
  - Arthritis: glucosamine and chondroitin
  - Muscle and ligament pain: wintergreen oil and liniments
  - Headache and migraine: feverfew
Traditional Chinese Medicine

- TCM is part of a holistic approach to healing that is most effective when combined with other TCM therapies.
  - Acupuncture, manipulative therapies (tui na), food, and movement (qi-gong and tai ji)

- The four energies
  - Cold, hot, warm, and cool

- The five flavors
  - Pungent (or acrid), sweet, sour, bitter, and salty
Traditional Chinese Medicine (continued)

- The four movements
  - Upward, downward, floating, and sinking

- Meridian routes
  - Pathway of energy identified in TCM that corresponds to the 12 organ systems that the herb can enter and move through
Traditional Chinese Herbs

- A Chinese herb will be classified by its action to clear heat, stop wind, or reduce fire.

- Chinese herbal formulas
  - Classic formulas
  - King herb and subject herb
  - Assistant herbs
Traditional Chinese Herbs (continued)

- Administering Chinese herbs
  - Decoction
  - Powders
  - Tablet
  - Rules: timing, temperature, and not taking the herbal formula with a tea
Ayurvedic Herbs

- **Tridosha theory**
  - Six basic tastes: sweet, sour, salty, pungent, astringent, and bitter

- **Foods treat disease:**
  - Sweet, sour, and salty foods reduce *vata*.
  - Bitter, pungent, and astringent foods enhance *vata*.
  - Astringent, bitter, and sweet foods reduce *pitta*. 
Ayurvedic Herbs (continued)

• Sour, salty, and pungent foods enhance *pitta*.
• Bitter, pungent, and astringent foods reduce *kapha*.
• Sweet, salty, and sour foods enhance *kapha*.
Herbal Preparations

- Bolus: suppository inserted into the rectum
- Compress and fomentation: applying herbs externally to the body
- Liniments: warming herbal extracts rubbed in the skin
- Oils: concentrated extracts used for massaging the body
- Capsules or pills
Herbal Preparations (continued)

- Poultices and plasters: topical applications of powdered, crushed, or mashed herbs usually applied moist, either hot or warm, and left on an area of the body for 12 to 20 hours.
- Mixtures for smoking: herbs that patients smoke.
- Tinctures: extracts of herbs preserved in alcohol or vinegar.
Considerations for the ANP

- Respect the rights of patients to choose their own therapies.
- Educate yourself.
- Understand the known risks of CAM therapies.
- Refer to trained/certified CAM providers.
- Keep an open mind.
Cannabis

- Used for medicinal purposes since 2000 BC
- Marijuana was listed as a medicinal compound in the *US Pharmacopeia* in 1851
- Currently a schedule 1 drug
- 29 states have legalized marijuana use
Endocannabinoid System

- Cannabinoid (CB) receptors
- CB1 receptors in the central nervous system (CNS)
- CB2 receptors in immune cells and tissues
Cannabinoids

- *Cannabis sativa, cannabis indica, and cannabis ruderalis*

- Cannabis plant has up to 400 phytochemicals and 104 cannabinoids
  - Tetrahydrocannabinol (THC) has psychoactive properties.
  - Cannabidiol (CBD) has no psychotropic effects.
Approved Cannabinoid Products

- Dronabinol (Marinol): synthetic cannabinoid used for nausea and vomiting
- Nabilone (Cesamet): used for nausea and vomiting
- Nabiximols (Sativex): approved in 30 countries
- Cannabidiol (Epidiolex): approved for seizures
Pharmacodynamics of Cannabis

- Multiple active ingredients

- Used for:
  - Chronic pain
  - Cancer
  - Chemotherapy-induced nausea and vomiting
  - Anorexia and weight loss

- Epilepsy
- Spasticity caused by multiple sclerosis (MS) or paraplegia
- Sleep disorders
- Post-traumatic stress disorder (PTSD)
Adverse drug reactions (ADRs) of Cannabis

- Reproductive effects
- Cancers
- Cognitive/psychosocial effects
- Mental health effects