

Integrative Health 101

FOR HEALTHCARE PROFESSIONALS & STUDENTS



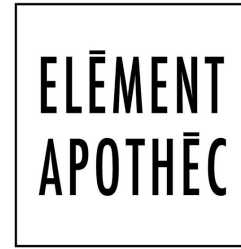
FREE
WEBINAR

NOVEMBER 14TH
8 PM EST / 5 PM PST

WITH DR. PAM TARLOW & DR. SWATHI VARANASI

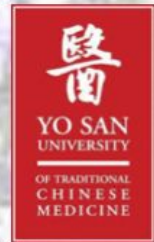


Swathi Varanasi, PharmD
Integrative Health Pharmacist





Pam Tarlow, PharmD
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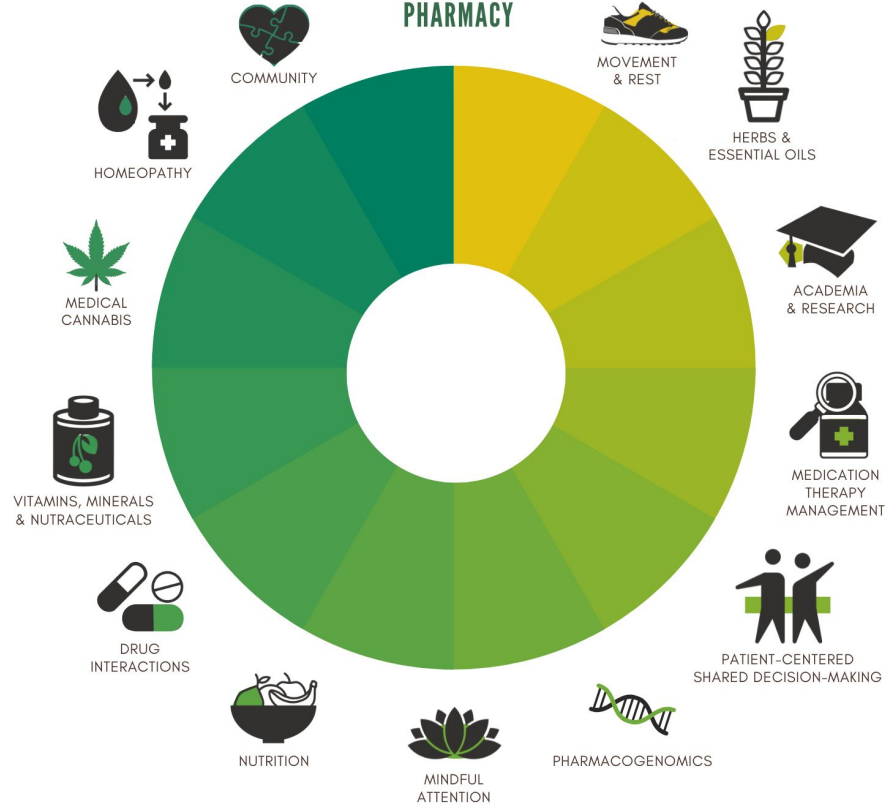


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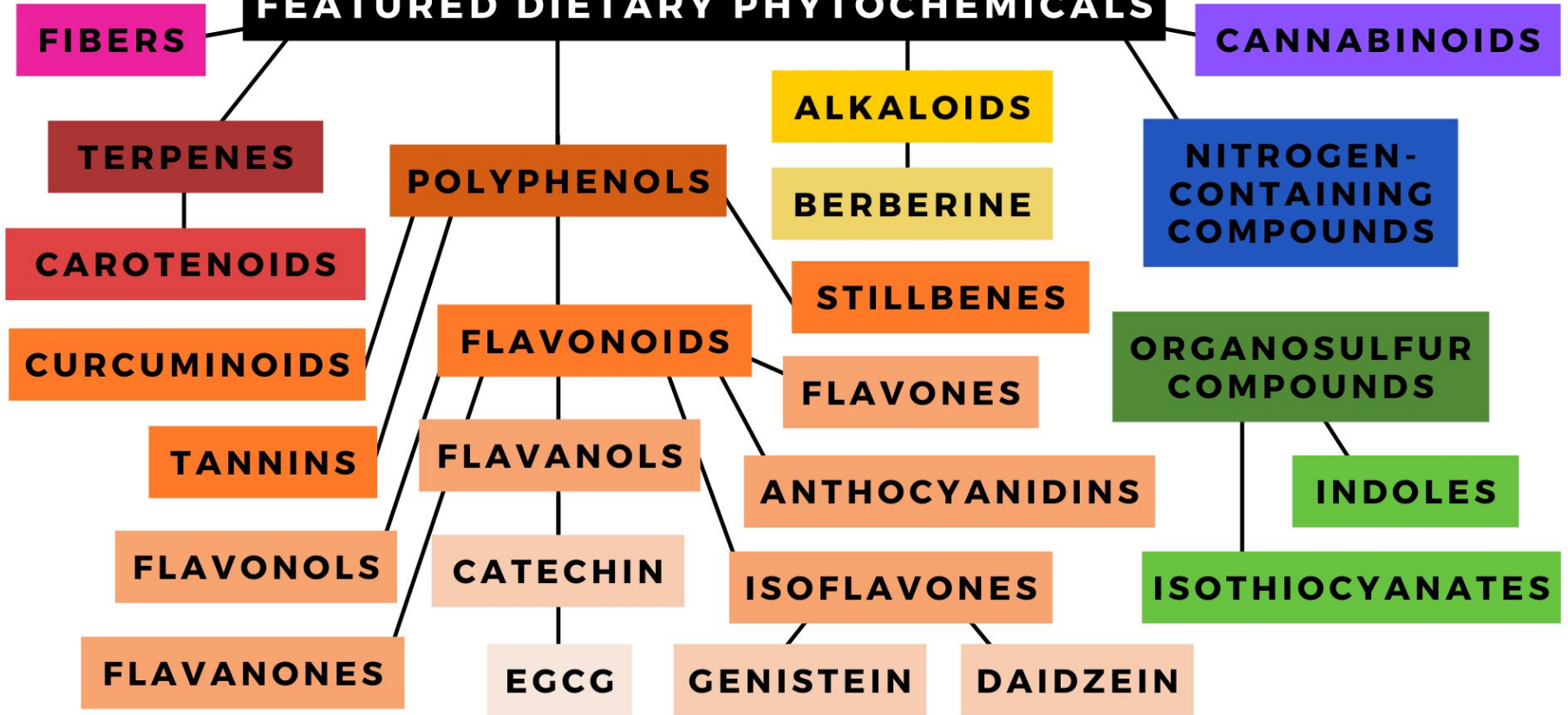
USC School of Pharmacy



INTEGRATIVE HEALTH PHARMACY



FEATURED DIETARY PHYTOCHEMICALS



Patient Perceptions on the Efficacy and Safety of Cannabidiol Products and the Role of the Pharmacist: A Cross-Sectional Study

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ABSTRACT

OBJECTIVE: The aims of the study were to evaluate patient perceptions on the efficacy and safety of cannabidiol (CBD) products, to identify potential safety issues of concurrent use of CBD with other medications, and to determine whether patients discuss CBD use with their pharmacist.

METHODS: A cross-sectional study design and an anonymous survey were used to assess participants' reasons for seeking CBD, unwanted side effects of CBD, current medication lists, perceptions of CBD efficacy/safety, and whether participants discussed CBD products and/or CBD use with their health care professional or pharmacist. The survey was administered at Santa Monica Homeopathic Pharmacy in the Los Angeles metropolitan area from February 10 through March 13, 2020. Twenty-nine participants were recruited; all participants met inclusion criteria and were included in the data analysis. Statistics were completed using frequencies, means, and simple percentage analysis.

RESULTS: Among participants (N=29), more than half reported taking CBD (n=16, 55.2%); the vast majority of users (n=15, 93.8%) reported that CBD relieved their symptoms. Approximately two-thirds of the participants taking CBD (n=11, 68.8%) noted concurrent use of prescription medications, including antidepressants, benzodiazepines, insulin, opioids, and statins. Half (n=8) reported alcohol consumption. The number of participants who felt CBD was "generally safe" (n=25, 86.2%) was higher than those who believed "CBD may help their condition" (n=21, 72.4%). Only 6.3% of users (n=1) discussed their use of CBD with a pharmacist.

CONCLUSION: Although CBD products are generally recognized as effective and safe, potential safety concerns exist that may go unaddressed. This study demonstrates that pharmacists, who are one of the most accessible health care professionals, can serve as a valuable resource to patients regarding the safe use of CBD products.

Integrative Health 101

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self-paced
ONLINE
COURSE



WITH DR. PAM TARLOW & DR. SWATHI VARANASI

So, WHY did we create
Integrative Health 101?

Disclaimers

Dietary supplements are not intended to diagnose, treat, cure, or prevent any disease.

Products/drugs presented are for educational purpose only.

Please use professional discretion regarding information presented and the application to an individual patient and practice site.

No information presented on drug/homeopathic/supplement/herb use:

Before and after surgery

Pregnancy and lactation

If user is allergic to any ingredients

Dietary Supplement Health and Education Act of 1994 (DSHEA)

Dietary Supplement

Vitamins and minerals

Amino acids

Enzymes

Herbs

Animal extracts

Probiotics

Under this act:

1. Manufacturers of a dietary supplement must ensure their products are **safe** and the **labeling** is accurate **before** marketing
2. FDA can take action against any **adulterated** or **misbranded** dietary supplement **after** its on the market

Manufacturers are not required to get FDA approval before producing/selling

Structure/Function Claims

Structure/function claims have historically appeared on the labels of conventional foods and dietary supplements as well as drugs. The Dietary Supplement Health and Education Act of 1994 (DSHEA) established some special regulatory requirements and procedures for structure/function claims and two related types of dietary supplement labeling claims, claims of general well-being and claims related to a nutrient deficiency disease. Structure/function claims may describe the role of a nutrient or dietary ingredient intended to affect the normal structure or function of the human body, for example, "calcium builds strong bones." In addition, they may characterize the means by which a nutrient or dietary ingredient acts to maintain such structure or function, for example, "fiber maintains bowel regularity," or "antioxidants maintain cell integrity." General well-being claims describe general well-being from consumption of a nutrient or dietary ingredient. Nutrient deficiency



Regulation

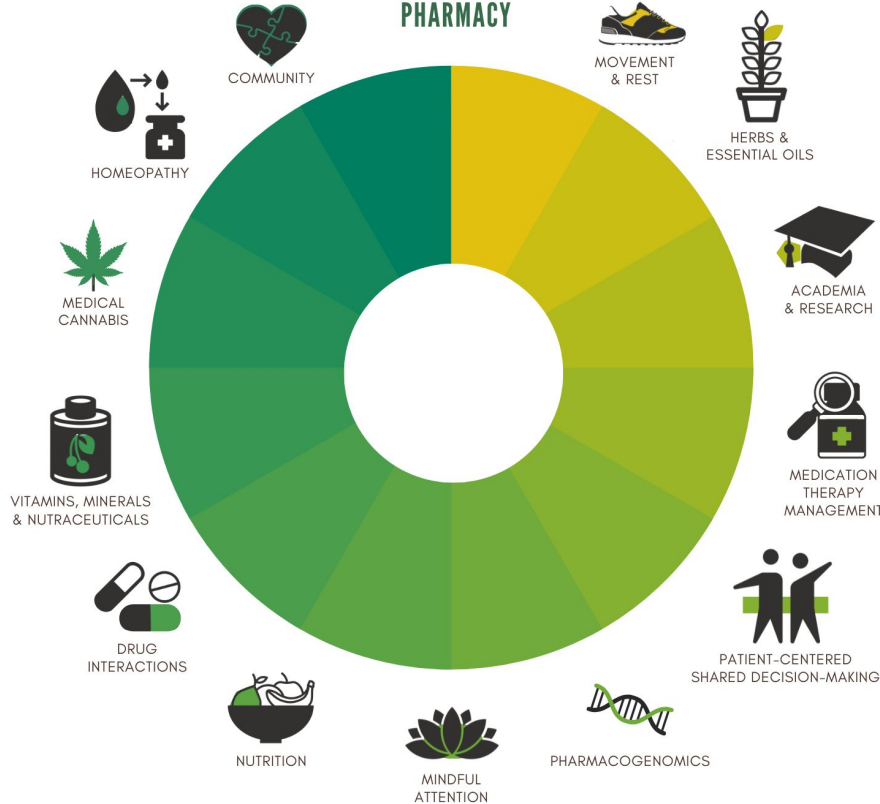
Table 1

Comparing Pharmaceutical Products

	Premarket Requirement	Indication on Label	Postmarket Review	Regulation of Advertising	GMP Required
Prescription drug	Clinical testing and affirmative FDA approval	Yes	Yes	FDA	Yes
OTC drug	Conformance with FDA OTC monograph	Yes	Yes	FTC	Yes
Homeopathic drug	Conformance with Homeopathic Pharmacopeia	Yes	Yes	FDA (Rx), FTC (OTC)	Yes
Dietary supplement	FDA notification	No	Yes	FTC	Yes

*FTC: Federal Trade Commission; GMP: good manufacturing practice.
Source: FDA.*

INTEGRATIVE HEALTH PHARMACY



Integrative Health 101

FOR HEALTHCARE PROFESSIONALS & STUDENTS

COURSE MODULES

INTRODUCTION TO INTEGRATIVE HEALTH

HOMEOPATHY

ADAPTOGENS

VITAMINS &
MINERALS

SUPERFOODS

NUTRACEUTICALS

CANNABIS

THERAPEUTIC
AROMATHERAPY

AYURVEDA

DRUG-HERB
INTERACTIONS

MOVEMENT, REST,
& LIFESTYLE

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FOR HEALTHCARE PROFESSIONALS & STUDENTS

COURSE MODULES

HOMEOPATHY

- Understand what it is and how it is different from conventional drugs, dietary supplements, and essential oils

VITAMINS &
MINERALS

- Key nutrients and their role in our diets and daily living with highly regarded references and use cases

NUTRACEUTICALS

- Much needed consumer-driven guidance on probiotics, fish oils, antioxidants, amino acids and more

THERAPEUTIC
AROMATHERAPY

- How to use essential oils wisely to utilize the most primary sense—our sense of smell

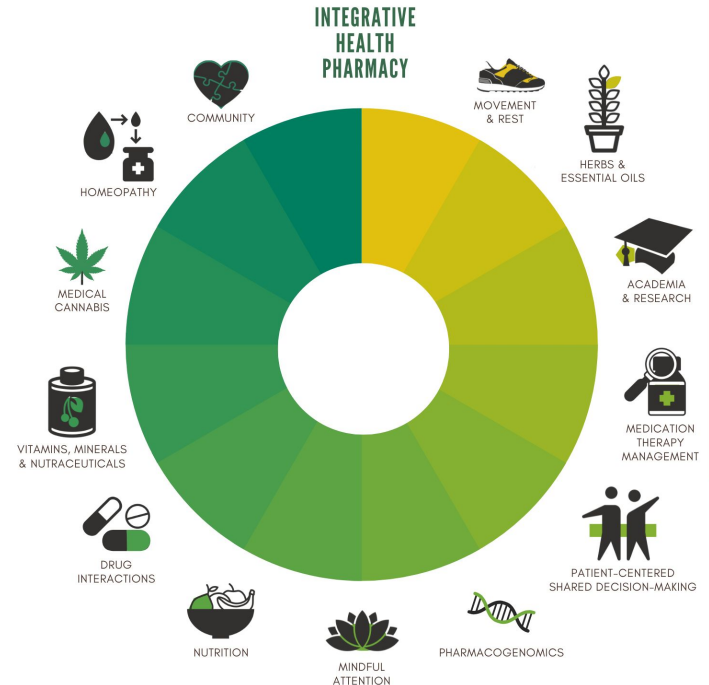
DRUG-HERB
INTERACTIONS

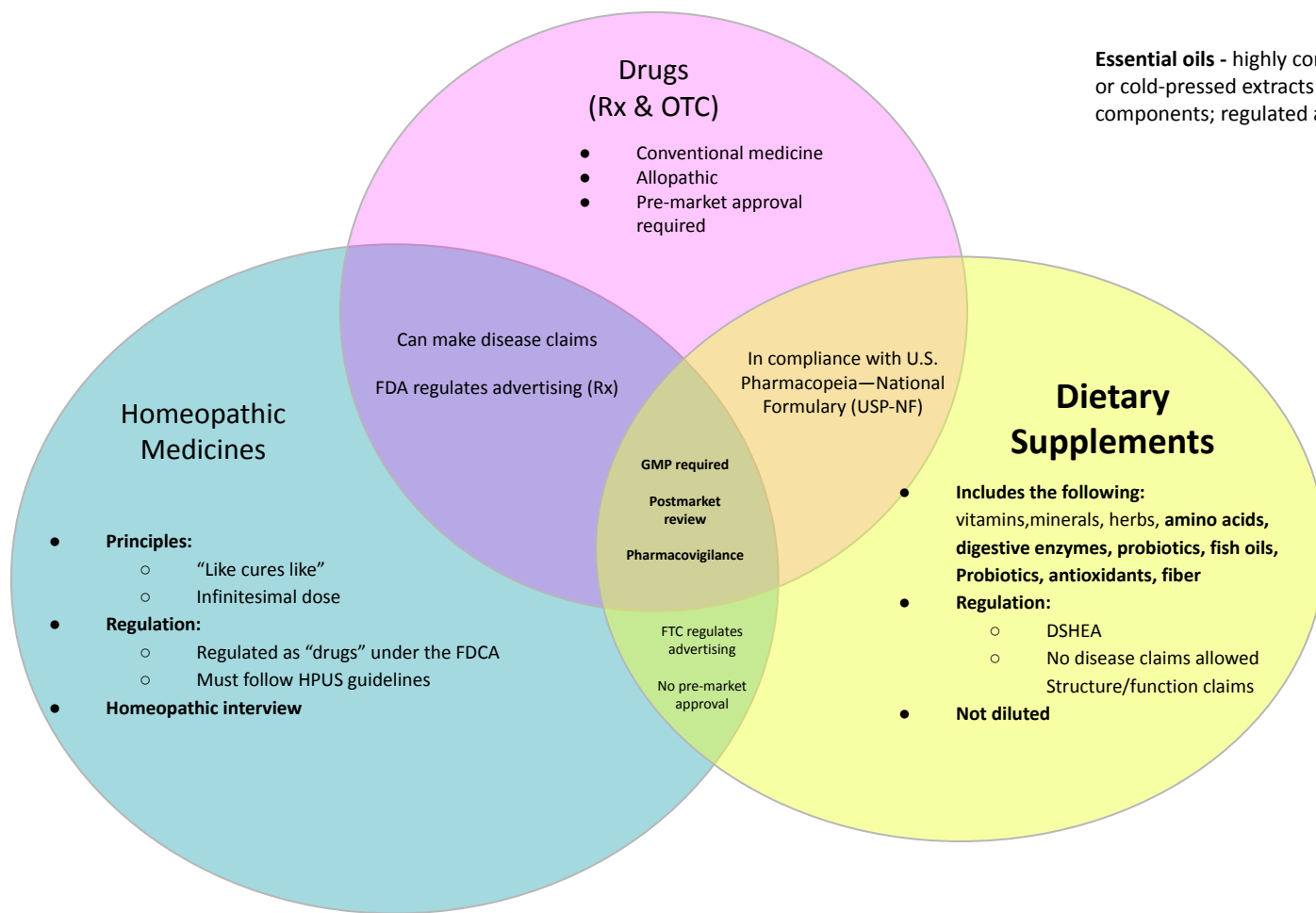
- Examine true risks and benefits of combining prescription drugs with herbs and other natural products

(Integrative) Patient Care: Who Will They Ask?

Patients ask questions...

- How will you answer?
- Do you listen to their questions?
- What options will you offer?
- How confident are you?
- How do you keep them safe?
- Who will you refer them to?





Essential oils - highly concentrated, steam-distilled or cold-pressed extracts of volatile, fragrant plant components; regulated as cosmetics by FDA

Abbreviations:

DSHEA = Dietary Supplement Health and Education Act of 1994
FDA = Food and Drug Administration
FDCA = Federal Food, Drug, and Cosmetic Act
FTC = Federal Trade Commission
GMP = Good Manufacturing Practice
HPUS = Homeopathic Pharmacopoeia of the United States

MATCHING: Choose the answer (options a-e; more than one may be true) that accurately describes the natural products (1-10)

1. Arnica Montana 6C
 2. Magnesium Glycinate
 3. Ubiquinol 100mg
 4. Lavender oil
 5. EPA/DHA 1000mg
 6. Hypericum perf. 30C
 7. St. John's wort 300mg
 8. Probiotic powder
 9. Cannabidiol (CBD)
 10. Vitamin D
- a. Homeopathic medicine (HM)
 - b. Conventional prescription drug
 - c. Dietary supplement
 - d. Essential oil
 - e. Food

Homeopathic Medications: Consultation Guidelines

- Importance of understanding and explaining to our patients and colleagues
 - Risks vs. benefits
 - Principles
 - Safety and interactions
- Determine that homeopathy is reasonable
- Select medicine, dilution, dosage and frequency
- Give guidelines and references
- Take at the **onset of symptoms** for best results
- **Increase frequency with acuteness of symptoms, decrease with improvement**
- Dissolve solid forms in water for young children
- Keep away from excessive heat and (>115 °F) and contaminants

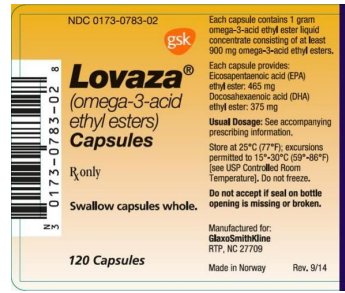
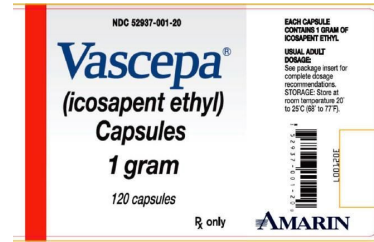
Vitamins & Minerals

1. Regulated as drugs and dietary supplements
2. Vital cofactors
3. Many functions including immune system and mental health
4. Vulnerable population increased risk for effects of too little or too much
5. Resource guide for more information
6. Quality considerations
7. Vitamin 'families' - mostly from exogenous sources
8. Minerals - inorganic substance (may be bound to organic compounds)

Non-Rx



Rx

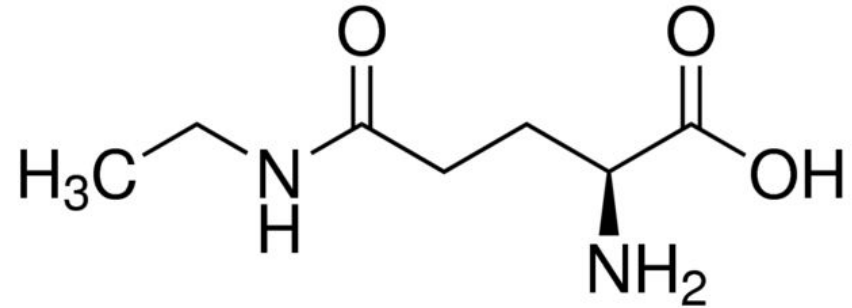


Food



Amino Acids: L-theanine

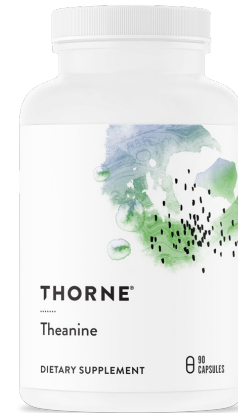
- Nonprotein amino acid first discovered in the leaves of **green tea**
 - Harmonizes caffeine
 - Chemically similar to glutamate in structure
 - Balances neurotransmitters
- Supports **alpha brain waves**
- Non-addictive
- ↓ Cortisol levels
- ↑ **BDNF** levels
- Neuroprotective



Amino Acids: L-theanine

Potential benefits:

- ↑ **Relaxation**
- ↑ Quality of **sleep** without sedation
- ↓ **Stress**
- ↓ Irritability and **anxiety**
- ↑ **Focus**, concentration, **memory** and learning ability
- May lower **blood pressure**



Therapeutic Aromatherapy: Essential Oils

- Essential Oils (EO)
 - **EO - volatile, lipid-soluble, secondary metabolites, “essences”, odorants, that give fragrant plants distinctive smell, taste, or both**
- Characterized by latin binomial names
- Complex compounds
- Practitioners



Therapeutic Aromatherapy: Intended Uses



- Wellness
- Mood
- Sleep



- Meditation
- Stress Response
- Alertness
- Relaxation

NOTE:
**Always use
professional
discretion**

Not for internal consumption
Caution w/ vulnerable groups
Dilute before use on skin

More details, see safety slide



- Respiratory
- Musculoskeletal
- Skin
- Gastrointestinal
- Hormonal
- Antimicrobial

Integrative Practitioners: Framework

Training as pharmacists prepares us for drug-herb-nutrient interactions

(wanted and unwanted)

- Clinical assessment
- **Individual variability**
- Resources
- Discerning relative risk
- Patient-provider-shared decision making
- Communication

Integrative Practitioners: High Alerts!

Medications

- **Antithrombotic**
- Blood pressure
- Hormones
 - HRT
 - Thyroid
 - Glycemic
- Mood drugs
- Heart
 - Antiarrhythmics
 - Digoxin
- Steroids
- Opioids

Conditions

- Epilepsy
- Cancer
- Atrial fibrillation
- **Transplant**
- **Surgery (including bariatric)**
- Autoimmune disease
- **HIV**
- Diabetes
- **Pregnancy & lactation**
- Infants & children
- Renal dysfunction/dialysis
- Liver dysfunction

Integrative Health 101

FOR HEALTHCARE PROFESSIONALS & STUDENTS

COURSE MODULES

ADAPTOGENS

- Introduction to the background and use of common adaptogens like reishi, ginseng, maca, and ashwagandha

SUPERFOODS

- Plant-forward nutrition concepts including dietary phytochemicals in superfoods like matcha, cacao, and olive oil

CANNABIS

- 10 things that we should know about cannabis and the endocannabinoid system

AYURVEDA

- Ancient Indian medicine practices and how the three mind-body types influence nutrition

MOVEMENT, REST,
& LIFESTYLE

- Lifestyle modalities are important in a comprehensive regimen of health and healing like meditation, movement, and rest



MATCHA

Camellia sinensis



Benefits

EPIGALLOCATECHIN-3-GALLATE (EGCG)

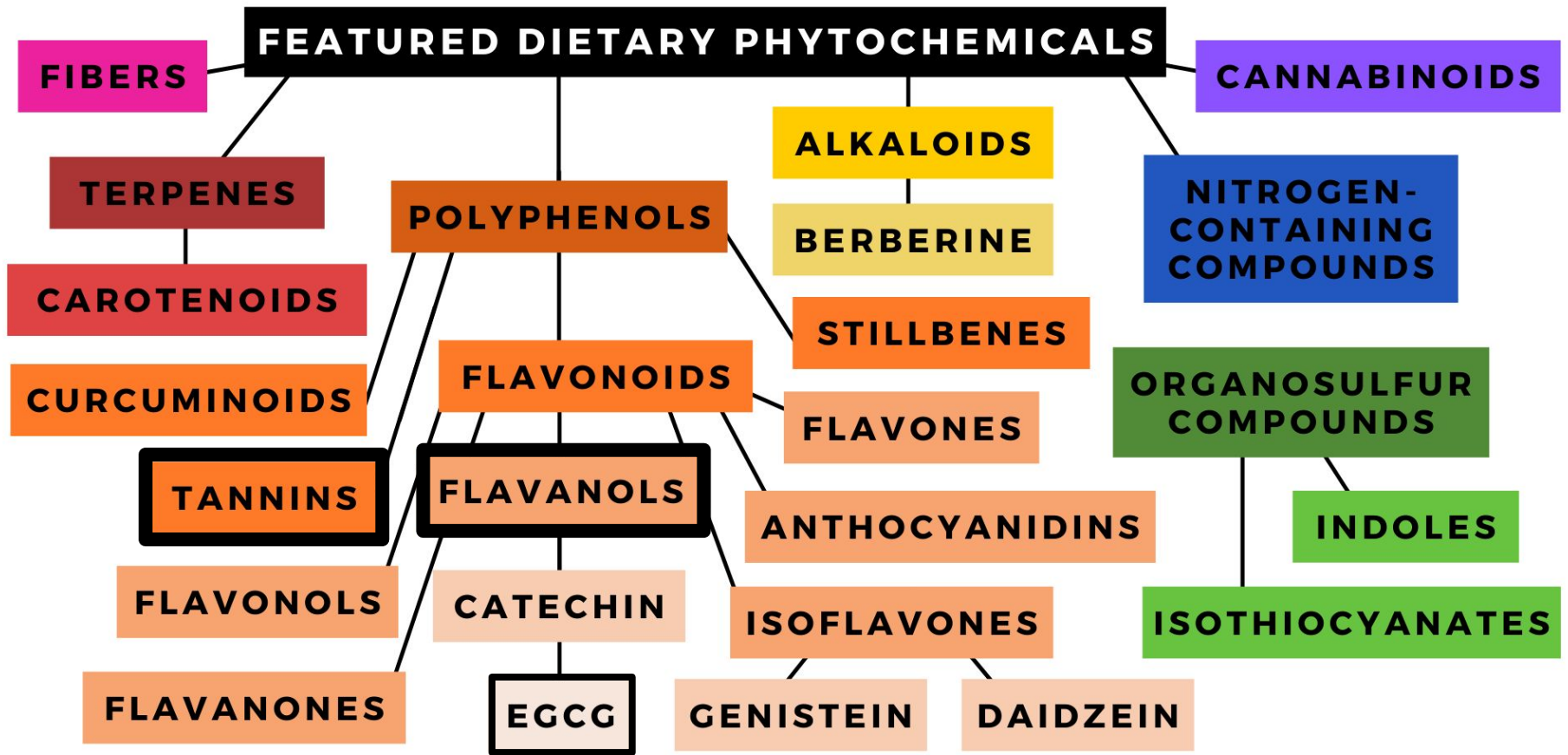
- Polyphenol, **bioflavonoid** molecule
- **Neuroprotective:** Increases BDNF
- **Cardiovascular:** Decreases LCL, TC, TG
- **Chemoprotective:** Decreases side effects

L-THEANINE

- Essential **amino acid**
- 5x more than sencha green tea
- **Sustained energy (4-6 hours)**
- Improved **focus** and attention
- ***Calm alertness without the crash***

NUTRIENTS

Antioxidants, potassium, magnesium, calcium, zinc, phosphorus, iron, protein, *caffeine*





DID YOU KNOW?

**CAFFEINE CONTENT
MATCHA VS. COFFEE**



Daily Life

- Japanese **tea ceremony**
- Buddhist monks' **meditation**
- Ritualized, intellectual **tradition**
- Watch out for 'matcha' at **franchises**
- Watch out for **sugar** added to beverages

WHAT TO BUY

Culinary vs. Ceremonial

Farming: Import label, ethics

Packaging: Opaque, airtight

Price: Higher price; >\$1/gram

Color: The greener, the better

Taste: Ceremonial is sweeter,
culinary is bitter

Feel: Fine, soft powder


What is Ayurveda?

Definition of *Ayurveda*


: a form of alternative medicine that is the traditional system of medicine of India and seeks to treat and integrate body, mind, and spirit using a comprehensive holistic approach especially by emphasizing diet, herbal remedies, exercise, meditation, breathing, and physical therapy

THE PRINCIPLES OF AYURVEDA

Two main guiding principles:



The **mind and body** are inextricably connected



Nothing has more power to heal and transform the body **than the mind**

“

Freedom from illness depends upon expanding our own awareness, bringing it into balance, and then extending that balance to the body.

Deepak Chopra


Panch Mahabhootas (5 Elements)



DISCOVER YOUR DOSHA

“Doshas” are the foundation for Ayurveda.

- ◆ Also known as mind-body types, the doshas express unique blends of physical, emotional, and mental characteristics.
- ◆ You can achieve and maintain a vibrant and joyful state of health in the Ayurvedic way by identifying your mind-body type and creating a lifestyle that supports your unique nature.
- ◆ There are three doshas — **Vata**, **Pitta**, and **Kapha** — and they are all derived from the five elements of Nature, which are:

				
Space <i>akasha</i>	Air <i>vayu</i>	Fire <i>tejas</i>	Water <i>jala</i>	Earth <i>orprithvi</i>

The 3 Doshas

- **Mind-body** types
- Derived from the **elements**
- **Unique** physical, emotional and mental characteristics



Introduction to *Ahaar* (Ayurvedic Nutrition)

HOW TO START LIVING AN AYURVEDIC LIFESTYLE

Here are a few of the most important aspects of the Ayurvedic approach and suggestions for applying them to create perfect health in your daily life:



1

Eat a colorful, flavorful diet (or “eat the rainbow”)

Next to breathing, **eating is our most vital bodily function.**

The **six tastes** are one of the guiding principles of Ayurvedic theory. Try to include some amount of all six tastes in each meal.



Sweet



Salty



Sour



Pungent



Bitter

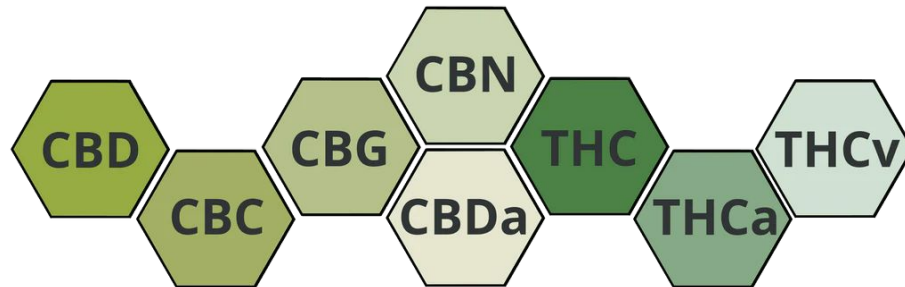


Astringent

When you include all six tastes, you will also notice that you feel satisfied and that the urge to snack and overeat will diminish.

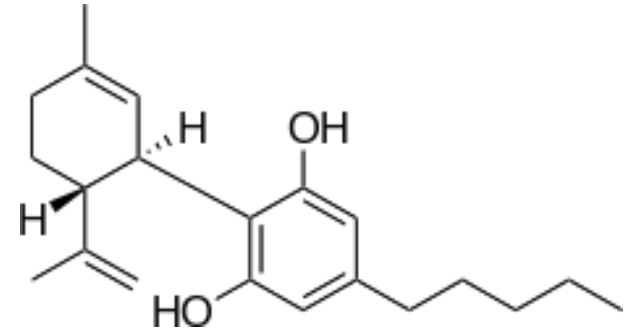
Phytocannabinoids

- Over 560 components have been identified in *Cannabis*
- Over **120 unique phytocannabinoids** found to date
- Δ^9 -THC and CBD are the most abundant, most recognized, and most studied
- Constituents and amounts vary by strain, cultivation techniques, preparation, & route of administration
- **“Entourage” effect**
- Strains can be analyzed and given “fingerprints”



Cannabidiol (CBD)

- Cannabidiol is a cannabinoid, but is **not psychoactive**
 - More recently, now referred to as **non-intoxicating**
- It is useful in **pain, inflammation, epilepsy, anxiety, and sleep**
- **Non-cannabinoid receptor mechanism**
 - Modulates a range of pharmacologic targets
 - 5HT1A
 - PPARgamma
 - TRPV1 channels



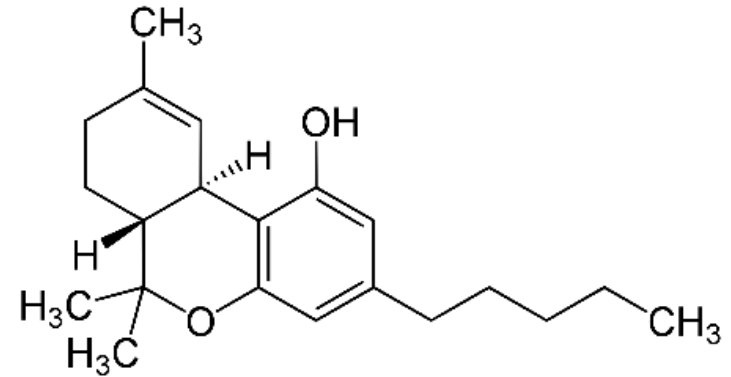
Stone NL, et al. *Br J Pharmacol.* 2020 Jul 1;177(19):4330-4352.

Tetrahydrocannabinol (THC)

- Δ 9-tetrahydrocannabinol (THC) is the **psychoactive** component of cannabis
- It is a potent **antioxidant**
- **It is a partial agonist for the CB1 and CB2 receptors**
- CB1 receptors regulate the release of other neurotransmitters
- Also interacts with targets transient receptor potential (TRP) channels, GPR55, and PPARs

- Increases **appetite**
- Reduces **nausea**
- Decrease **pain, inflammation,** and **muscle** control problems

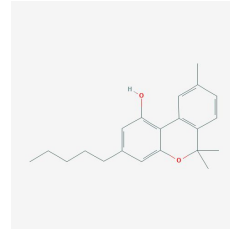
The FDA has approved the use of synthetic THC for appetite and nausea reduction purposes



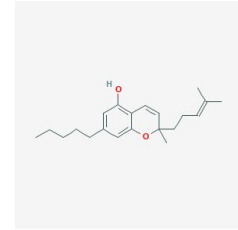
Stone NL, et al. *Br J Pharmacol.* 2020 Jul 1;177(19):4330-4352.

Minor Phytocannabinoids

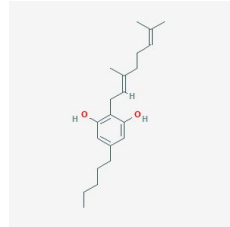
- Minor phytocannabinoids:
 - Every other cannabinoid found in the plant excluding THC and CBD
- Less abundant than THC and CBD
- Some have therapeutic potential



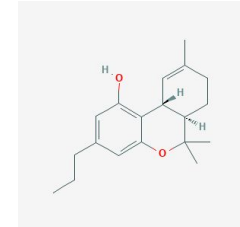
Cannabinol (CBN)



Cannabichromene (CBC)



Cannabigerol (CBG)



Tetrahydrocannabivarin (Δ9-THCV)

Role of Healthcare Professionals



- **There IS research** on integrative medicine
- More human studies are needed on safety and efficacy
- **Conflicting** information needing **translation** and **application**
- **Complexity** with understanding herbs with range of benefits
- Supplements and herbs **could interact** with medications and lifestyle
- Discuss **risk vs. benefits** with patient **BEFORE** initiating therapy
- **Impact of patient-practitioner relationship on quality of life**

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*Is this course
right for me?*

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How long is Integrative Health 101?
Are there live sessions?

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*I am a student or resident.
Is there a discount?*

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Is there a certificate?

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*Will I be **eligible** for the certificate
without finishing all of the modules?*

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See What Our STUDENTS Are Saying



*"I was quite impressed by the **depth of knowledge** of the presenters in the respective topics they shared. I would recommend this course to any healthcare practitioner or anyone curious to learn the basics of Integrative Health."*

PGY1 PHARMACY RESIDENT

*"This course was awesome. So glad I was lucky enough to be a part of it! I made **great connections**, and this course **rekindled my love of integrative medicine.**"*

PHARMACIST & ENTREPRENEUR



LEARN MORE AT [INTEGRATIVEHEALTH101.TEACHABLE.COM](https://www.integrativehealth101.teachable.com)

Integrative Health 101

FOR HEALTHCARE PROFESSIONALS & STUDENTS

See What Our STUDENTS Are Saying



*"Dr. Tarlow and Dr. Swathi were **the perfect duo** to share their experiences and knowledge around Integrative Health. Their **enthusiasm was contagious** and the material presented was super useful to my practice as a pharmacist. **Highly recommend!**"*

ADVANCED PRACTICE PHARMACIST

*"This was a **great introduction** to integrative health! It provided excellent information and starting foundation for practitioners to delve deeper in these topics. **Dr. Swathi and Dr. Tarlow were very passionate** about the topics making each session **very engaging** for all of us!"*



P3 PHARMD STUDENT

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WITH DR. PAM TARLOW & DR. SWATHI VARANASI

at integrativehealth101.teachable.com!

Questions? Ask Us!



DR. PAM TARLOW

DR. SWATHI VARANASI

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