AYURVEDA AND INTEGRATIVE MEDICINE FOR IMMUNITY

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AYURVEDA: ANCIENT WISDOM FROM INDIA

Ayu - life
Veda - science

over 3000 years
oldest systems of
medicine

“When diet is wrong, medicine is of no use. When diet is right, medicine is of no need.”

~ Ayurvedic proverb
THE PHILOSOPHY OF AYURVEDA

- 5 elements concept of the universe
- Body’s innate self-healing ability
- A way of life
- Personalized & individualized program
- Detoxification and rejuvenation
THE THREE DOSHAS

- **Balance** between doshas, and body, mind, and spirit, **results in health**
- **Prakruti** – “body type”, the original state of doshas
- **Vikruti** – current state of doshas

**All functions of the body**
Genetic differences between Prakritis

CONCEPTS OF OJAS AND SUBTLE ESSENCES

**Prana** – subtle vata element, responsible for the processes of circulation, digestion, and excretion

**Tejas** – counterpart of pitta, regulates cellular metabolism, intelligence and digestion

**Ojas** – a vital substance that is the refined end product of digestion, made from all 7 *dhatus* or tissues, linked to kapha, responsible for strong immunity, vigor, and longevity
ALL DISEASE STARTS IN THE GUT

Predisposition
- low ojas
- poor diet and lifestyle
- excess sugar, alcohol
- stress
- environmental toxins

Stage I
dosha imbalance and/or weakened Agni, leading to production of Ama (toxins)
Days following symptom onset, a large number of specialized helper T cells, killer T cells, and B cells — all of which are crucial immune cells — were active in the patient’s blood samples.
EXCESSIVE INFLAMMATION \(\rightarrow\) ARDS

Yuen, K et al. SARS-CoV-2 and COVID-19: The most important research questions. Cell Biosci 10,40 (2020)
INTEGRATIVE MEDICINE STRATEGIES FOR OPTIMAL IMMUNE FUNCTION

- Healthy diet and vitamins
- Spices
- Agni / gut health
- Herbs and supplements
- Sunlight and nature exposure
- Stress reduction techniques
- Exercise
- Sauna
- Nasya and oil-pulling
- Sleep/rest
- Positive Attitude
- Gratitude
LIVE THE WAY YOU EVOLVED TO LIVE

Healthy Diet

- Movement
- Dinacharya
- Rest/Sleep
- Manage Stress
>3 million years as hunter-gatherers

10,000 years ago – agriculture begins
Our ancestors ate primarily wild plant foods such as leaves, tubers, roots, fruits, nuts, beans and legumes.

Hunted meat and fish if available.

# of different plants consumed was 100-120 per year, and >20 different species of vegetables and fruits every single day.
TOP 10 IMMUNE BOOSTING FOODS

- Leafy greens
- Mushrooms
- Cold water fish
- Bone broth
- Beet greens
- Pumpkin seeds
- Oranges
- Apples
- Fermented foods
- Apple cider vinegar
LEAFY GREENS
ARUGULA, RADICCHIO & LOOSE-LEAF LETTUCE

plant flavonoids reduce NLRP3 inflammasome signaling
MUSHROOMS

Increase Roseburia, Bifidobacteria, Lactobacillus, and Akkermansia

Activate innate immunity

Anti-inflammatory
COLD WATER FISH

Omega-3s
Selenium
Vitamin A
Vitamin D
(↓ NLRP3)
PUMPKIN SEEDS

zinc reduces viral replication and may prevent coronavirus entry into cells
ORANGES

vitamin C inhibits NLRP3 inflammasome activation

vitamin C shortens the frequency and severity of colds and the incidence of pneumonia

**BEET GREENS**

- Rich source of trimethylglycine (TMG), which supports methylation and healthy liver function
- Anti-inflammatory nutrients – betalains, betanin, isobetanin, vulgaxanthin
- Betalains ↑ activity of glutathione-S-transferase – Phase 2 liver detox
APPLES

Skin contains a compound called quercetin, which may help ↓ NLRP3 & regulate the immune system.

FERMENTED FOODS
APPLE CIDER VINEGAR
SPICES

- The most nutrient-dense foods on the planet
- Rich in antioxidants
- Reduce inflammation
- Support digestion
- Help with metabolic and glycemic balance
GINGER

- Used traditionally in Ayurveda to fight infections and is especially helpful for sore throat, cold, and flu
- Fresh ginger is active against RSV, a common cause of lung infections in children
- Research on the antibacterial activity of ginger found that it inhibited the growth of multidrug resistant bacteria
GARLIC

- Garlic alone contains over 100 distinct phytochemicals
- Allicin and other active ingredients suppress inflammatory cytokines such as IL-6, TNF-alpha
HOW TO USE GARLIC

To maximize nutritional benefits prepare garlic the following way: Crush, mince or mash the garlic and then wait for 10 minutes.

Then you may either consume the garlic raw or sautee or fry the garlic and still get all its health benefits.

Do not cook immediately after crushing.
TURMERIC

- Antiviral effects
- Reduces key cytokines like IL-1B
- Inhibits NLRP3 inflammasome

To maximize nutritional benefits:
Combine with black pepper during cooking (increases absorption 2000%)
CINNAMON

- traditional use for antimicrobial properties – broad antibacterial and antifungal effects
- cinnamon inhibits the growth of pathogenic fungus Candida albicans
- the essential oil of cinnamon inhibited 5/6 harmful bacteria in one study
HERBS AND SUPPLEMENTS DISCLAIMER

- no human trials for COVID-19
- informational only, not recommendation to take
- take only under supervision of a licensed practitioner
- not a substitute for proven, conventional measures
AMLA (AMALAKI)

Indian gooseberry

Nutrient-dense

Rich source of vitamin C & phytochemicals

Significantly improved endothelial function, antioxidant status, systemic inflammation and lipid profile

CHYAWANPRASH

Made from 50 medicinal herbs and extracts, including Amla

Tridoshic ojas-building formula from Caraka Samhita

Preparation involves preparing a decoction of herbs, followed by extraction steps, mixture with ghee and honey, and addition of spices
CHYAWANPRASH

- Rich in vitamin C, polyphenols and flavonoids, exhibits antioxidant activity, enhances the immune system, and fights infections

- In a 6-month-long randomized multicenter clinical study in children (5–12 years old) it was shown to improve immunity and energy levels

COD LIVER OIL

Rich source of vitamin A and vitamin D, which activate innate immune cells
ELDERBERRY

- Lab studies show that elderberry inhibits replication and viral attachment of human coronavirus NL63 (HCoV-NL63)
- May be most effective in the prevention or early stage of viral infections
- The Natural Standard Research Collaboration found that there is evidence to support the use of elderberry for influenza

ELDERBERRY INFUSION

Ingredients

- 16 ounces of water
- 8 ounces elderberries
- 1/4 teaspoon cinnamon powder
- 1 teaspoon ground ginger or 2 inches fresh ginger
- 12 cloves
- 2 tablespoons of honey

1. In a saucepan on medium heat, add all ingredients (except honey) to water and simmer for 20 minutes
2. Allow to cool and filter
3. Add honey as desired and serve
HONEY

- In a study with 139 children, ½ tsp of honey beat out dextromethorphan (a cough suppressant) and diphenhydramine (an antihistamine) in easing nighttime cough in children and improving their sleep.

- Another study involving 105 children found that buckwheat honey trumped dextromethorphan in suppressing nighttime coughs.

ASHWAGANDHA

- Powerful adaptogenic herb
- Rasayana or rejuvenator, ojas-building
- Helps body adapt to stress - ↓ cortisol levels, ↓ stress and anxiety, and improves inflammation
ASHWAGANDHA

Very heating herb so traditionally taken with milk

One study found that consuming Ashwagandha with cows’ milk led to:

- increase in the level of white blood cell activation, most pronounced in CD56+ Natural Killer cells
- a statistically significant increase in the number of CD4+ T helper cells

Use caution if you have hyperthyroidism

Sunlight directly activates immune cells by increasing their movement.
Sunlight exposure has been shown to improve vitamin D levels and also directly stimulate immune cells, independent of vitamin D levels.

“We all know sunlight provides vitamin D, which is suggested to have an impact on immunity, among other things. But what we found is a completely separate role of sunlight on immunity.” – Gerard Ahern, PhD
BENEFITS OF SUNLIGHT

▪ Helps the body make Vitamin D, which is crucial for bone health, immune function, cancer prevention, and brain health

▪ Stimulates T cell movement

▪ Regulates our circadian rhythm, which affects sleep patterns, hormone regulation and cognitive function

▪ Exposure to sunlight during the daytime (even through a window) can help sleep quality at night
CONNECTING TO NATURE

- Studies have shown increased numbers of NK cells in people who spent time in a forest vs. those who stayed in an urban environment

- 20 minutes in an “urban nature” locale can lower cortisol

- Houseplants, or pictures of nature scenes, have a similar calming effect – healing environment

Psychological stress disrupts immune regulation and is specifically associated with increased pro-inflammatory cytokines such as IL-65.

Acute stress in animal studies increases IL-1B via NLRP3 inflammasome activation.

Increased severity and frequency of viral infections.
EXERCISE

- 20 minutes of walking daily is beneficial
- Yoga practice is very powerful
- For those who are more ambitious – Move like our ancestors did via HIIT
SAUNA THERAPY

- Sauna – sweating is part of purvakarma, panchakarma
- Sauna bathing has been shown to reduce the risk of respiratory diseases in long-term studies
- Regular visits to the sauna also significantly reduce the frequency and severity of colds & flus in both children and adults

Eur J Epidemiol. 2017 Dec;32(12):1107-1111
Ayurveda considers nasya, or nasal application of oil, to be a panchakarma therapy.

- It is often recommended for conditions such as allergies, chronic rhinitis, sinusitis, dizziness, brain fog, anxiety, and depression.
- Lubricates and nourishes respiratory tract.

David Frawley, *Yoga and Ayurveda* (Silver Lake, WI: Lotus Press, 1999), 203–204.
NASYA

- Administer nasya on an empty stomach an hour before or after a shower or exercise
- Lie down with the head tilted back and put 5 drops of nasya in each nostril
- Inhale deeply, then remain lying for a minute to allow the nasya to penetrate
NETI POT
OIL PULLING

- Supports oral microbiome
- Used to strengthen the teeth, gums, and jaws and to prevent tooth decay, gum disease, and bad breath
- Removes toxins from the body and stimulates Agni, or digestive fire
OIL PULLING

- Done on empty stomach with either sesame or coconut oil
- Take a teaspoon of oil into the mouth and swish and “pull” the oil around through teeth
- After about 5-10 minutes the oil is believed to have drawn up toxins and waste metabolites
- Do not swallow the oil – dispose in trash
SLEEP

- Shorter sleep duration increases the risk of infectious illness

- One study found that less than 5 hours of sleep over 1 week increased the risk of developing a cold by 350% when compared to individuals who slept at least 7 hours per night

- Important to COVID-19, sleep deprivation increases CXCL9, a compound implicated in NLRP3 inflammasome activation
EFFECTS OF POSITIVE ATTITUDE ON IMMUNE FUNCTION

- A surprisingly large effect on health

- 83 studies show that optimists enjoy better health in areas such as longevity, cancer survival, physical symptoms, and immune function

- A positive attitude improves T-cell counts, natural killer cell levels, interleukins, and other markers of immune function

“Avoid a negative approach to life. Why gaze down the sewers when there is loveliness all around us? Life has a bright side and a dark side . . . Look only for the good in everything.”

— Paramahansa Yogananda
A growing body of research shows health benefits including better sleep, more well-being, less depression, and improved relationships.

Simple technique is to write a short email expressing your gratitude to someone in your life once a week, being specific about things you appreciate about them.

L. Croke, “Cultivating gratitude can lead to mental, physical, and work-related benefits” AORN J. 2019 Nov;110(5):P5
Resources:
- The Paleoovedic Diet

Ayurveda and the Paleo Diet Online Course (click here)