

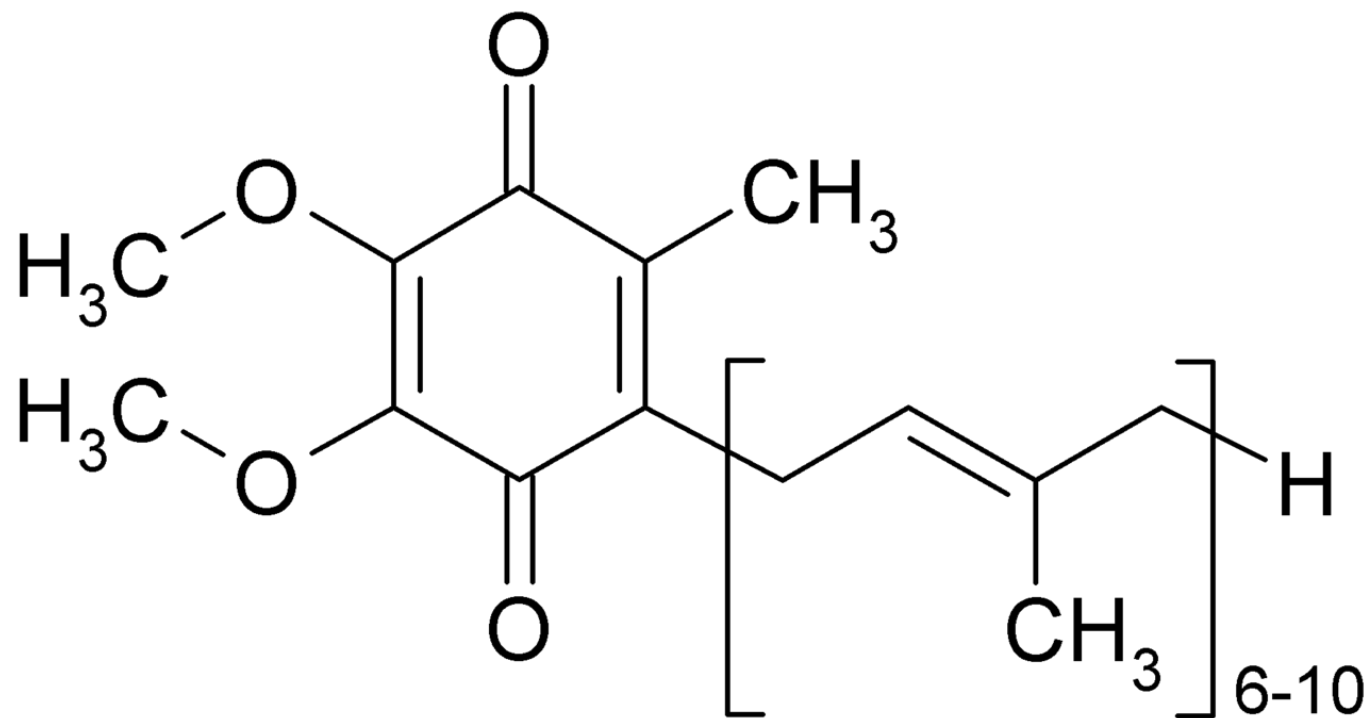


# گیاهان دارویی و لاغری

دکتر شیرین مرادخانی

دانشگاه علوم پزشکی همدان

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- کوآنزیم کیوتن ترکیبی است که در بدن ساخته شده و در میتوکندری سلول ها ذخیره می شود.
- میتوکندری ها مسئول تولید انرژی هستند.
- کیوتن (کوآنزیم کیوتن) یک ترکیب محلول در چربی و شبه ویتامین است که فواید زیادی برای سلامتی دارد.
- با بالا رفتن سن، تولید **CoQ10** کاهش می یابد. بنابراین به نظر می رسد که افراد مسن در معرض کمبود این ترکیب هستند.

- CoQ10 در همه سلول های بدن وجود دارد.
- بیشترین مقدار آن در بافت هایی با بیشترین نیاز به انرژی مثل قلب ، کلیه، ریه و کبد مشاهده می شود.

- غذاهای زیر حاوی کوآنزیم کیوتن (CoQ10) هستند:

- گوشت بافت ها : قلب ، جگر و کلیه
- گوشت های ماهیچه ای: گوشت گاو و مرغ
- ماهی چرب: ماهی قزل آلا، شاه ماهی، ماکرو و ساردین

- سبزیجات: اسفناج، گل کلم و کلم بروکلی

- میوه : پرتقال و توت فرنگی

- حبوبات: سویا، عدس و بادام زمینی

- مغزها و دانه ها: کنجد و پسته

- روغن ها: روغن سویا و کانولا



- از وظایف اصلی آن:
- کمک به تولید انرژی در سلول
- دخالت در ساختن آدنوزین تری فسفات **ATP** که در انتقال انرژی به سلول ها دخیل است
- به عنوان یک آنتی اکسیدان عمل کرده و از سلول ها در برابر آسیب اکسیداتیو محافظت می کند.
- وجود مقادیر زیادی از رادیکال های آزاد منجر به آسیب اکسیداتیو می شود که می تواند در عملکرد منظم سلول ها اختلال ایجاد کند.
- 
- رادیکال های آزاد باعث بروز بسیاری از بیماری ها می شوند.

- با توجه به اینکه از ATP برای انجام کلیه عملکردهای بدن استفاده می شود و آسیب اکسیداتیو برای سلول ها مخرب است ، جای تعجب نیست که برخی بیماری های مزمن با سطح پایین CoQ10 مرتبط بوده اند.

- بیماری هایی مثل بیماری قلبی، اختلالات مغزی ، دیابت و سرطان با سطح پایین CoQ10 ارتباط دارند. البته مشخص نیست که آیا سطح پایین CoQ10 باعث بروز این بیماری ها می شود یا در نتیجه آنها ایجاد می شود.

- کوکیوتن به بهبود سلامت قلب و تنظیم قند خون، پیشگیری و درمان سرطان و کاهش دفعات میگرن کمک می کند. همچنین این ترکیب می تواند آسیب اکسیداتیو که منجر به خستگی عضلات، آسیب پوست و بیماری های مغزی و ریوی شود را کاهش دهد.

- کمک به افزایش میزان انرژی قلب و دیگر عضلات
- افزایش انرژی و بهبود تحمل ورزش
- پیشگیری از تصلب شرایین و بیماریهای کرونر قلبی
- کاهش عوارض داروهای استاتینی (ضعف و التهاب عضله قلب)
- کمک به کاهش فشار خون
- بهبود قوای باروری آقایان (افزایش تحرک اسپرم)
- کاهش بیماری های مخرب اعصاب مانند آلزایمر و پارکینسون
- کمک به درمان سردرد های میگرنی

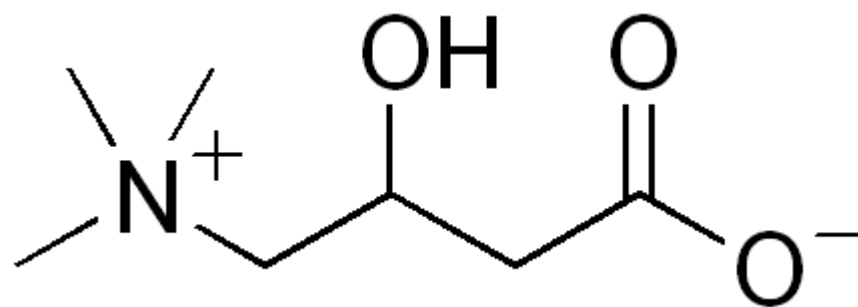


# Main indications

- Congestive heart failure
- hypertension

# Pregnancy& Lactation

- Unknown
- There were no reports in the evidence-based medical literature of CoQ-10 supplementation associated with abortion, teratogenicity, mutagenicity, uterine stimulation, menstrual stimulation (emmenagogue) or hormonal
- (estrogen, progesterone) activity.



- در کبد و کلیه از اسیدهای آمینه لیزین و متیونین ساخته شده

- مهم‌ترین منابعی که غنی از این ماده هستند، به ترتیب عبارتند از گوشت قرمز، شیر ماهی کاد پخته، سینه مرغ پخته، پنیر چدار، نان و غلات کامل

- ال کارنیتین، شکل فعال، استاندارد و بیولوژیکی از کارنیتین است که در بدن، مواد غذایی و مکمل‌ها یافت می‌شود.

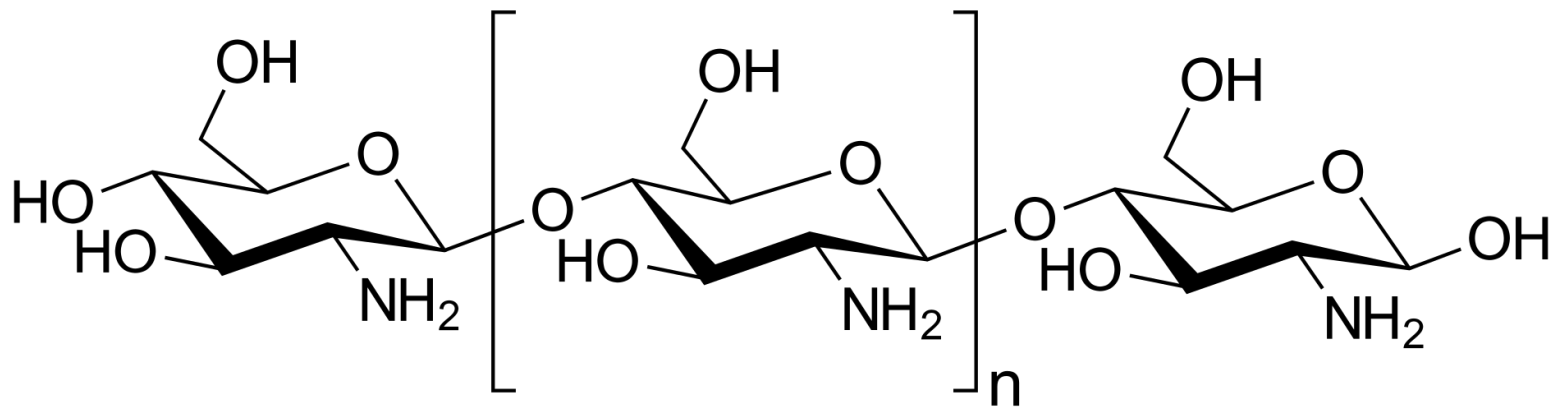
- کارنیتین با انتقال اسیدهای چرب بلند زنجیر به داخل میتوکندری و تسهیل بتاکسیداسیون آنها نقش مهمی در تولید انرژی ایفا می‌نماید.

- در واقع سبب سوخت و ساز چربی می‌شود.

- دی-کارنیتین:
- این شکل غیرفعال با ممانعت از جذب دیگر اشکال مفید باعث کمبود کارنیتین در بدن می شود.
- استیل-ال کارنیتین:
- این شکل که غالباً ALCAR نام دارد، موثرترین شکل از کارنیتین برای عملکرد مغز است. مطالعات پیشنهاد می کنند که این شکل می تواند برای بیماری های تحلیل عصب مفید باشد.

- پروپیونیل-ال کارنیتین:
- این شکل برای مسایل گردش خون مثل بیماری عروق محیطی و فشارخون بالا مناسب است. این شکل می تواند تولید نیتریک اکساید را تقویت کند و جریان خون را بهبود بخشد.
- ال کارنیتین ال-تارترات:
- این شکل معمولاً بدلیل بالا بودن سرعت جذب به مکمل های ورزشی اضافه می شود و می تواند به درد و احیای عضله بعد از ورزش کمک کند.

- بارداری و شیردهی:
- دیتا کامل نیست
- در دوزهای بالاتر از ۳ گرم در روز می تواند سبب تهوع، استفراغ و اسهال گردد.
- دوز مصرفی:
- تا ۲ گرم در روز
- داروهای ضد تشنج سبب افزایش دفع کاربامیتین می شوند.
- هم چنین بیماران کلیوی باید با نظر پزشک و با احتیاط مصرف نمایند.





- کیتوزان:

- پلی ساکارید امینه با شباهت ساختاری به سلولز می باشد.

- کیتین پوشش بدن سخت پوستانی چون میگو است

- از داستیله نمودن کیتین کیتوزان حاصل می شود.

- کیتوزان :
- ساختار یونی دارد
- به مولکول های چربی باند می شود
- مانع جذب چربی می شود
- می تواند در موارد زیر تاثیراتی داشته باشد:
- جلوگیری از جذب چربی
- کاهش وزن
- کاهش کلسترول و قند خون

- مصرف در کودکان مجاز نمی باشد.
- مصرف در زنان باردار و شیرده ، در افراد مبتلا به سوءجذب و افراد دارای آلرژی به صدف مجاز نمی باشد.
- مصرف فراورده های حاوی کیتوزان ممکن است باعث نفخ و کرامپ های شکمی خفیف شود.
- مصرف همزمان فراورده های حاوی کیتوزان با داروهای رقیق کننده خون (وارفارین) مجاز نمی باشد.
- فراورده های حاوی کیتوزان را با فاصله زمانی یک ساعت از سایر داروها مصرف نمایید.

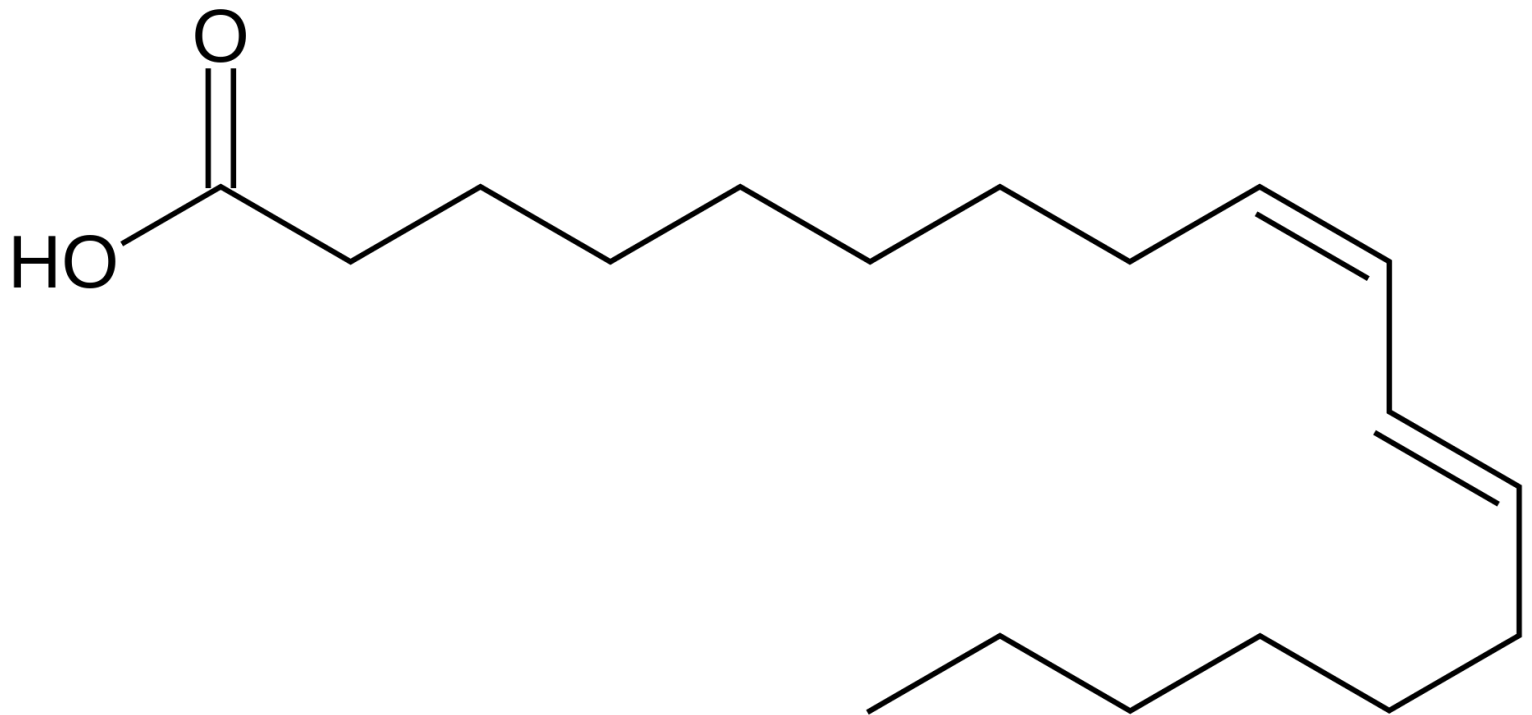
- احتمالاً جذب برخی داروها را تحت تاثیر قرار می دهد
- باعث کاهش جذب ویتامین های محلول در چربی و مواد معدنی می شود
- از طرفی این نقص های تغذیه ای می تواند سبب بهم ریختن فلور میکروبی و فرصت طلبی پاتوژن ها شود.





- دوز مصرفی:

- توصیه به مصرف ۱۵۰۰ میلی گرم روزانه بویژه همراه با مصرف غذاهای چرب و البته همراه با آب فراوان

# لینولیک اسید کونژوگه



- 
- CLA is found in low concentrations in blood and other tissues, although it is not synthesised endogenously in humans.
  - It is produced naturally by microorganisms associated with digestion, particularly in the rumen of cattle

- 
- Human requirements
  - No proof of dietary need exists.
  - Dietary sources
  - Beef, lamb, dairy produce.


# Action

- Antioxidant.
- Enhances immune function (in animals).
- Enhances delivery of fat into cells.
- Transports glucose into cells to provide energy and build muscle (rather than converting glucose to fat).



# Possible uses

- Enhances weight loss
- Reduces lean body mass and increases fat mass
- Improves lipid profile
- Improves insulin resistance
- Reduces risk of cancer
- Improves bone metabolism
- Improves immune function

- 
- **Precautions/contraindications**
  - Insulin resistance.
  - **Pregnancy/breastfeeding**
  - No problems reported; insufficient data.
  - **Adverse effects**
  - No known adverse effects, except gastrointestinal effects, but no long-term studies.
  - Lipid peroxidation reported in obese men with dose of 4.2g/day;
  - significance unknown.

# Hydroxycitric acid

- is derived from the small fruit of the plant *Garcinia cambogia* found in south-east Asia


# Action


- HCA is a potent inhibitor of the enzyme ATP citrate lyase.
- Inhibition of ATP citrate lyase has the capacity to prevent carbohydrate conversion to fat.
- Inhibition of this conversion may suppress appetite and inhibit adipose tissue synthesis



# Possible uses

- Reduces body weight
- Reduces appetite
- Improves lipid profile

- 
- Precautions/contraindications
  - No long-term studies have assessed the safety of HCA.
  - Pregnancy/breastfeeding
  - No data in pregnant/ breastfeeding women.
  - HCA is best avoided during pregnancy and lactation


- 
- Interactions
  - None reported.
  - Dose
  - Not established. Supplements provide 1–4g/day

# Chromium

- Chromium is a trace mineral found in two forms:
- (\*) trivalent ( $\text{Cr}^{3+}$ )
- which is biologically active and found in food
- (\*) hexavalent ( $\text{Cr}^{6+}$ )
- a toxic form that results from industrial pollution.


# Dietary sources

- Wholegrain cereals (including bran cereals)
- brewers' yeast
- broccoli
- processed meats and spices

- 
- Dairy products, most fruit and vegetables, and foods high in sugar are poor sources (diets high in simple sugars increase urinary chromium excretion compared with diets low in sugar, possibly because of increased chromium use in response to increased glucose metabolism)


# Human requirements

- No UK reference nutrient intake (RNI) or estimated average requirement(EAR).
- A safe and adequate intake is:
  - for adults, 50–400mcg daily
  - for children and adolescents, 0.1–1.0mcg/kg daily.

- 
- US adequate intake (AI)
  - for men (19–50 years) is 35mcg daily
  - for women (19–50 years) 25mcg daily.
  - For those aged over 51, the AI is 30mcg
  - daily for men and 20mcg daily for women


# Dose

- Chromium is available in the form of chromium picolinate, chromium nicotinic acid, chromium chloride or as an organic complex in brewers' yeast.

- 
- The dose is not established.
  - Studies have been conducted with 200–500mcg elemental chromium daily.
  - Dietary supplements provide, on average, 200mcg in a daily dose

# Adverse effects

- Trivalent chromium is relatively safe.
- There are reports of headaches, sleep disturbances and mood swings with chromium supplements.

- 
- Chromium picolinate has been associated with genotoxicity and DNA damage, but this is not proven.
  - Hexavalent chromium (not found in supplements) is toxic


# Action

- Functions as an organic complex known as glucose tolerance factor (GTF).
- Enhances action of insulin.
- Influences carbohydrate, fat and protein metabolism.




# Possible uses

- Helps control diabetes mellitus
- Reduces cholesterol
- Reduces body fat
- Increases muscle/fat-free mass in athletes
- Improves symptoms of depression associated
  - with carbohydrate craving

- 
- Chromium picolinate seems to be better absorbed than chromium nicotinate and chromium chloride




- Interactions

- 
- **Drugs**
  - Antacids:
    - may decrease chromium absorption.
  - Aspirin:
    - may increase chromium absorption.
  - Insulin:
    - may reduce insulin requirements in diabetes mellitus (monitor blood glucose).
  - Oral hypoglycaemics:
    - may potentiate effects of oral hypoglycaemics.
  - **Nutrients**
  - Vitamin C:
    - may increase chromium absorption.


# Green tea extract


- A non-fermented product (black tea is fermented) made from the leaves of *Camellia sinensis*.


- 
- Potent polyphenolic antioxidants
  - Flavonols
  - Tannins
  - Minerals
  - Free amino acids
  - Methylxanthines :
  - Caffeine, Theophylline, Theobromine

# Action

- Antioxidant.
- Chemoprotective.
- Antibacterial and antiviral activity.
- Reduction of serum cholesterol and LDL-cholesterol oxidation.
- Inhibition of platelet aggregation.

- 
- Antioxidant/reduces oxidative stress
  - Reduces risk of cancer
  - Reduces serum cholesterol
  - Reduces risk of heart disease
  - Reduces body weight
  - Improves insulin resistance
  - Improves cognitive function
  - Improves menopausal symptoms
  - Benefits in asthma
  - Reduces inflammation in arthritis


- 
- Case reports of liver toxicity with
  - Extracts
  - Theoretically, green tea extract could increase bleeding with blood-thinning drugs (e.g. aspirin, warfarin) or supplements (e.g. bromelain, dong quai, fish oil, flaxseed, ginger, ginkgo, vitamin E).


- 
- doses of 250–300mg daily have been used.
  - Four to six cups of freshly brewed green tea should provide similar levels of polyphenols.





## *Hibiscus sabdariffa*


- rich in organic acids including:
- citric, malic, tartaric and allo-hydroxycitric acids
- Beta carotene, vitamin C, protein and total sugar.

- 
- Hypotensive effect
  - Loss of appetite

- 
- Hibiscus sabdariffa tea has been used safely in amounts of up to 720 mL daily for up to 6 weeks.
  - Side effects are uncommon but might include stomach upset, gas, and constipation.

- 
- Pregnancy & Breast-feeding:
  - Stay on the safe side and avoid use.
  - There isn't enough reliable information to know if it is safe for children under 12 years old.
  - Stop using *Hibiscus sabdariffa* at least 2 weeks before a scheduled surgery.


- 
- Taking Hibiscus sabdariffa tea along with:
  - chloroquine might reduce the effects of chloroquine


- 
- Antidiabetes drugs:
  - Monitor your blood sugar closely
  - Antihypertensive drugs:
  - might cause blood pressure to go too low
  - Simvastatin:
  - might decrease the effects of simvastatin
  - Diclofenac:
  - might alter levels of diclofenac
  - Losartan:
  - increase the effects and side effects of losartan.



# Cumin

- might have cholesterol-lowering and antibacterial effects
- People use cumin for abnormal levels of cholesterol or blood fats, obesity, diarrhea, and many other conditions

- 
- Cumin might cause an upset stomach in some people
  - Pregnancy and breast-feeding:
  - Stay on the safe side and stick to food amounts.
  - Cumin might slow blood clotting


- 
- Antidiabetes drugs:
  - might cause blood sugar to drop too low
  - Anticoagulant / Antiplatelet drugs:
  - might increase the risk of bruising and bleeding
  - Rifampin:
  - might increase the effects and side effects of rifampin.


# Dosing

- As medicine, cumin essential oil has most often been used by adults in doses of 25-75 mg by mouth daily for up to 6 months.
- Cumin powder has most often been used in doses of 1.5-3 grams by mouth daily for up to 6 months.

# Lemon


- Affect vascular permeability
- Anti inflammatory
- Diuretic
- Source of vitaminC


- 
- People use lemon for hay fever, high blood pressure, obesity, morning sickness, and many other conditions.


- 
- Lemon is commonly consumed in foods. As medicine, there isn't enough reliable information to know what an appropriate dose of lemon might be. Keep in mind that natural products are not always necessarily safe and dosages can be important.


# Fenugreek


- slow sugar absorption in the stomach and stimulate insulin
- lower blood sugar in people with diabetes
- might also improve levels of testosterone and estrogen, helping to improve interest in sex.

- 
- People commonly use fenugreek for diabetes, menstrual cramps, sexual problems, enlarged prostate, high cholesterol, obesity, and many other conditions

- 
- Side effects may include diarrhea, stomach upset, bloating, and gas. It may also cause allergic reactions in some people


- 
- Antidiabetes drugs:
  - might cause blood sugar to drop too low
  - Anticoagulant / Antiplatelet drugs:
  - might increase the risk of bruising and bleeding.
  - Warfarin (Coumadin) :
  - The dose of your warfarin might need to be changed.
  - Theophylline:
  - might reduce the effects of theophylline.


- 
- Dosing
  - Fenugreek seed powder has most often been used by adults in doses of 5-10 grams by mouth daily for up to 3 years.
  - Fenugreek seed extract has most often been used in doses of 0.6-1.2 grams by mouth daily.


- 
- Stimulation of gastrointestinal motility
  - In higher concentrations”
  - Antispasmodic
  - experimentally, anethole and fenchone
  - Have shown a secretolytic action on the respiratory tract.
  - In vitro:
  - antimicrobial


# Celery


- The chemicals in different parts of the celery plant might have many effects on the body, including lowering blood sugar and blood pressure, and causing sleepiness.
- People use celery to repel mosquitos, for prediabetes, gout, rheumatoid arthritis, and many other conditions, but there is no good scientific evidence to support these uses.


- 
- Other traditional uses include as
  - a prophylactic for nervous agitation, for loss of appetite and exhaustion.

- 
- Cough
  - •Bronchitis
  - •Dyspeptic complaints

- 
- Pregnancy:
  - Large amounts of celery might make the uterus contract and cause a miscarriage. Stick to food amounts.


- 
- Thyroid conditions:
  - Celery might interfere with thyroid function.
  - Don't use celery if you have high or low thyroid levels or are taking medication for a thyroid disorder.


- 
- Bleeding disorders:
  - Celery root might increase the risk of bleeding when used in medicinal amounts. Don't use celery root if you have a bleeding disorder.


- 
- As medicine, celery seed powder or extract have most often been used by adults in doses of 1000-1500 mg by mouth daily.


# Dill

- People use dill for digestion problems, liver problems, urinary tract disorders, infections, and many other conditions


- 
- Aging skin
  - Menstrual cramps (dysmenorrhea).
  - High levels of cholesterol or other fats (lipids) in the blood (hyperlipidemia).
  - Labor pain.
  - Bronchitis.


- 
- pregnancy and breast-feeding:
  - it's possibly unsafe to use dill as a medicine if you are pregnant.
  - dill seed can start menstruation and that might lead to a miscarriage.


- 
- Diabetes:
  - Dill extract might lower blood sugar in people with diabetes

- 
- Underactive thyroid (hypothyroidism):
  - People with underactive thyroid don't make enough thyroid hormone.
  - Taking dill as a medicine seems to lower thyroid hormone levels.

- 
- Surgery:
  - Dill extract might lower blood sugar.


- 
- Lithium interacts with DILL
  - Dill might have an effect like a water pill or "diuretic." Taking dill might decrease how well the body gets rid of lithium


- 
- Medications for diabetes (Antidiabetes drugs) interacts with DILL
  - Dill extract might lower blood sugar.

- 
- Chicory is used for liver and heart health, constipation, swelling, and other conditions, but there is no good evidence to support its use.

# Chicory


- Approved by Commission E:
- •Loss of appetite
- •Dyspeptic complaints


- 
- Pregnancy and breast-feeding:
  - Taking chicory by mouth in large amounts is POSSIBLY UNSAFE during pregnancy.
  - Chicory might start menstruation and cause a miscarriage


- 
- Diabetes:
  - Chicory may lower blood sugar in people with diabetes
  - Antidiabetes drugs interacts with CHICORY


# Bitter Orange

- active ingredient called synephrine that is similar to ephedra
- In 2004, the FDA banned ephedra due to serious effects on the heart.

- 
- many weight loss and bodybuilding products have used bitter orange and caffeine in its place.
  - Bitter orange contains many chemicals that affect the nervous system.
  - These chemicals might cause heart problems in healthy adults.
  - Bitter orange is used for obesity, athletic performance, and many other purposes, but there is no good scientific evidence to support its use.

- 
- Bitter orange, taken by itself or with stimulants such as caffeine or caffeine-containing herbs, might increase the risk for high blood pressure, fainting, heart attack, stroke, and other serious side effects. There are also reports that bitter orange can trigger headaches in some people.

- 
- Medications for depression
  - Taking bitter orange with these medications might cause serious side effects including very fast heartbeat and very high blood pressure.
  - Midazolam (Versed)
  - might increase the effects and side effects of midazolam.

- 
- Bitter orange is available in supplements and topical oils. Supplements containing bitter orange are often marketed for athletic performance and weight loss. The active chemical in bitter orange, synephrine, can cause serious side effects, and products containing this ingredient have been shown to contain amounts much higher than what is listed on the product label. They've also been found to contain many other synthetic stimulants that are banned in supplements.

خدا حافظ ہمگی

