COCONUT OIL: HEALTH EFFECTS

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Introduction

- Coconut oil comes from the meat of matured coconuts harvested from the coconut palm. It is used in food, medicine and in the industry. Coconut oil is high in saturated fat content, and because of it, it has a long self-life.
Fat and fatty acids in human health

Fat is an important component of the diet:

- It is used for making many hormones
- It protects our nerves and internal organs as a thermal covering
- It is essential for growth
  - Some fatty acids are essential, we must get them from the diet, and they are used to make important compounds for growth and in metabolism
- It is used for energy
Fatty Acids

- Not all fats are created equal.
- There are three types of fatty acids:
  - Short-chain fatty acids
  - Medium-chain fatty acids
  - Long-chain fatty acids
- Because of the various lengths of the fatty acids, they are digested and metabolized differently.
**What’s the difference?**

<table>
<thead>
<tr>
<th>Fatty acid type</th>
<th>Coconut oil</th>
<th>Corn oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium chain</td>
<td>63%</td>
<td>None</td>
</tr>
<tr>
<td>Long chain saturated</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>Long chain unsaturated</td>
<td>7%</td>
<td>80%</td>
</tr>
</tbody>
</table>

The major difference between these oils and how they behave in the body is due to the different fatty acid compositions.
Difference in absorption and use

• Short-chain fatty acids are formed in the intestines by friendly bacteria and are rapidly metabolized by the intestinal cells.

• Medium-chain fatty acids are absorbed and transported directly to the liver where they are burned for energy.

• Long-chain fatty acids are turned into triglycerides and then are taken up by cells and used for energy or are stored.
  • Bile from the gallbladder is needed to digest long chain fatty acids.
Long chain saturated fatty acids

- Mainly from animal sources, also from some plants
- Makes blood vessels less pliable
- Increases heart disease risk
- Increases diabetes risk
- Increases blood pressure
- Increases LDL
- Increases triglycerides
- Increases inflammation
- Reduces HDL
**Long chain unsaturated** omega-6 fatty acids

- From vegetable oils (corn, soybean, safflower)
- Tend to promote inflammation
- Tend to promote chronic diseases (cancer, high blood pressure, diabetes, cardiovascular disease)
- Lowers LDL
- Essential fatty acids for humans
Long chain unsaturated omega-3 fatty acids

- From plants and seafood
- Most heart healthy
- Reduces platelet stickiness
- Dilates blood vessels
- Reduces blood pressure
- Reduces LDL cholesterol
- Increases HDL
- Reduces triglycerides
- Has essential fatty acids for humans
Medium chain triglycerides

- Are used for source of fat in malabsorption conditions such as IBS, and ulcerative colitis, and in infant formulas. It is also used to increase the energy intake in cystic fibrosis patients.
- Affects hormone release from intestines differently than LCFA’s
- Inhibits bacterial and virus growth
- Reduces LDL and increases HDL
- Reduces abdominal fat
- Increases fat burning
- Not stored in adipose tissue
- Reduces cholesterol synthesis by the liver
- Does not provide essential fatty acids
Benefits of Coconut oil

- Coconut oil contains antioxidants such as vitamin E, provitamin A, polyphenols and phytosterols.
- Because coconut oil has a lot of medium-chain fatty acids it can be useful for malabsorption conditions.
- May have some antibacterial, antiviral and antifungal properties.
- May help support the immune system.
- Maintains coagulation factors and therefore does not increase heart disease risk.
- Reduces cholesterol and triglyceride levels.
- Best result (i.e. reducing heart disease risk) is obtained when combined with safflower, corn, or olive oil.
What happens if...

• You replace vegetable oils (soy, corn, canola, olive) with coconut oil?
  • Vegetables oils contain more of the healthful fats (polyunsaturated and monounsaturated) that prevent heart disease and they have essential fatty acids.
  • Replacing all healthful fats with coconut oil is not prudent since coconut oil does not provide any essential fatty acids.
  • Will receive benefits from the other healthful components in coconut oil (phytosterols etc).
  • American Heart Association recommends that only 7% of total daily calories come from saturated fat.
Coconut Oil in Cooking

- Coconut oil is used in cooking because it:
  - Has a higher burning point.
  - Doesn’t go bad as quickly as some other fats.
  - Adds a nutty, vanilla-like flavor to foods.
  - Is solid at room temperature and can be used in cooking and baking.
  - Is used by certain cultures as the main cooking oil.

Photo by Amy Selleck, Flickr
Conclusions

- Can use virgin coconut oil prudently.
- Does not seem to increase heart disease risk.
- Is safe to use in small amounts.
- Can add flavor to cultural foods.
References


References


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References