Questioning seed oils and omega-6

Where does this idea come about that seed oils in omega-6 are harmful? This is Walter Willett. He's an MD from Harvard, and I'll answer his question. I think it starts to come from the multiple randomized controlled trials in humans that show that seeds oils increase death and increase cardiovascular events like heart attacks.

RCTs cited against seed oils

Trials like the Sydney Diet Heart Study, which show replacing saturated fats in the human diet with seed oil leads to increased rates of death, increased rate of cardiovascular disease in participants.

The conceptual design of the studies is actually pretty solid, but what Paul won't tell you is that they used a trans fat rich margarine. Unfortunately, at the time, not much was known about trans fats.

So the study doesn't say that polyunsaturated fats from seed oils are harmful, it tells us that trans-fats from partially hydrogenated margherins are.

But now, in places like Canada and the United States, margerins can't be sold if they have trans. Trials like the Minnesota coronary experiment, which show that replacing saturated fats with seed oils in the human diet leads to increased death in people over the age of 65 despite lowering of LDL.

Trans fat confounding in early trials

He doesn't mention that about three quarters of participants dropped out before one year and participants were allowed to come and go, so we actually don't know how well they stuck to the diet.

And the authors explicitly note that they can't determine if the statistic that Paul cited for ages 65 plus was statistically significant. And there's even more that he didn't mention.

Once again, the margarine that the used in this trial likely contained trans fats. So this was a very small trial with only 54 participants between the control and corn oil group and little information was given on their baseline cardiovascular risk factor.

There were also very few cardiovascular events that took place over the two-year trial, with most of them happening early on.

Methodological flaws in the Minnesota experiment

This is important because they may be due to risk factors that were already present before the trial started since cardiovascular disease takes a very long time to develop.

And once again, this statistic that he cites here was not statistically significant, which the authors note immediately following the part he decided to highlight.

Very convenient. And though there are randomized controlled trials in humans that show that seed oils have a negligible effect in human health, these trials almost all have major issues with the way they were conducted that leads to pretty fatal flaws in the study design, and I think that they're not very valid indicators of whether seed oil is healthy for humans.

Starting with the claim that there are some studies suggesting a negligible effect is just plain dishonest. We have multiple meta-analyses of randomized controlled trials suggesting that polyunsaturated fats from seed oils reduce the risk of cardiovascular disease compared to saturated fat.

He then goes on to vaguely comment about some methodological issues without giving any specifics.

Meta-analyses and counterarguments

And I suspect that's just a tactic so that he doesn't have to provide specifics and he knows that his followers will just accept his word. I can just point to the LA Veterans Administration hospital study, which doesn' t fall victim to very specific criticisms I threw back on his studies.

In this study over 800 people who were living in a domicile were randomized to either one cafeteria where food was prepared with saturated animal fats, or another cafeteria where those saturated fats were replaced with seed oils.

And over 8 years, those who were randomized to the seed oil had a 36% lower risk of cardiovascular events and a 35% risk for diet related deaths.

Veterans Administration study and tissue linoleic acid

Beyond randomized controlled trials, having higher levels of linoleic acid in your tissues, which is the primary fat from seed, is associated with a lower cardiovascular disease.

And the only reason it's in your tissues is because you ate it. You don't make it, so don' be duped by Paul's rhetoric. And if he wants to debate me on the topic, I'm game.