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Waking up with a huge, painful acne on your cheek, you start to blame the chips and pizzas from last night. You swear to eat only salads, drink unpalatable detox juices and quit ice cream from now on. But is it worth it?

Despite many conjectures about the effect of diet on acne — one of the most disturbing skin problems for many teenagers and young adults — there is insufficient scientific evidence to substantiate such association, according to a dermatologist from Penn State Hershey Medical Centre, Pennsylvania.

"[The association is] not implausible for sure," said Dr. Andrea Zaenglein during a pediatric dermatology meeting in Chicago on Saturday. "[But] there're very few actual clinical trials that we can use [to back up this assumption]."

Clinical trials are used by researchers to collet conclusive evidence on the potential physiological effect of a substance. However, food-related trials are hard to conduct and time-consuming; they require a large number of participants whose diets are strictly controlled for at least six months, according to Zaenglein.

The possible relationships between acne and dairy products, and the glycemic index of foods were the two major topics discussed during the meeting.

Zaenglein and her collegues discovered that teenagers with acne tended to drink more skim milk than those who were acne-free. Although the exact mechanism behind this remains unclear, scientists attribute the result to the acne-inducing hormonal factors in skim milk and the anti-inflammatory components in milk fat.

"[But] I don't want you to think this is a settled issue," said Zaenglein. "It is highly controversial."

The role of glycemic index, on the other hand, was introduced with greater confidence by Zaenglein.

Glycemic index measures a carbohydrate-rich food's ability to raise blood sugar after consumption. According to the American Academy of Dermatology, consuming high glycemic index food, such as white bread, chips and soda, spikes up one's blood sugar and insulin levels, contributing to the development of acne.

"I have no doubt that what you eat impacts… all aspects of your health including acne," said Zaenglein. "I don't have any problem telling kids that's a good idea [to eat a healthy diet]."

Yet, speaking of making recommendations for dairy intake, Zaenglein hesitated and said: "I don't think you can give solid recommendations right now. In the U.S., dairy consumption comprises

the primary source of calcium for many many teenagers. When we make recommendations, we gotta make sure that we are not undermining other aspects of their health."

The "Acne and Acneiform Eruptions" meeting was one of the symposia of the 13th World Congress of Pediatric Dermatology. Around 100 people, most of whom work in health care industry in their respective countries, attended the meeting.

"Evidence regarding food and acne is still not strong," said Dr. Angela Esguerra from St. Luke's Medical Center in the Philippines, who shared the same concern with Zaenglein when making dietary recommendations. Because dairy is less of a staple in the Philippine diet, Esquerra clarified that glycemic index is the focus of her conversations with patients.

"You are what you eat," said Zaenglein.

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Writing Sample #1

(Published originally on UBC blog. Link: https://blogs.ubc.ca/courseSIS_UBC_FNH_413_001_2016W1_70524_3750439_1/2016/11/17/can-a-salad-ever-become-an-illegal-substance/)

Can a Salad Ever Become an Illegal Substance?

What falls into the category of illegal substance? A white powder? A colourful pill? What about a homemade salad? Apparently, all of them are possible.

Mariza Reulas, a single mother of six from San Joaquin County in California, was accused of selling an illegal substance — a bowl of homemade ceviche salad. She was part of a Facebook food exchange group called *209 Food Spot,* whose members exchanged recipes, organized potlucks and sometimes traded their food. Reulas claimed that trading food was only a hobby of hers, but now the hobby could cost her jail-time (Powell, 2016).

ceviche salad

According to the legislation, selling food without a valid permit is not only a misdemeanour that places public health at risk, but also an unfair competition to food business owners who have obtained legal permits (Powell, 2016).

So what exactly is ceviche? Ceviche is a popular South American salad dish made by marinating raw fish in citrus juice tossed with avocado. Yummm, but wait, raw fish?

As you may or may not have known, raw fish is a common carrier of food-borne parasites including roundworms and tapeworms as well as food-borne bacteria such as *Listeria* and *Vibrio* bacteria (Seafood Health Fact, n.d.; U.S.FDA, 2016). Consuming undercooked infected fish can cause symptoms spanning from abdominal pain, vomiting, diarrhea to bleeding within skin and severe ulcers (U.S.FDA, 2016).

Ceviche salad, in particular, is associated with high risk of food-borne illnesses caused by various pathogens including *Anisakis simplex*, *Diphyllobothrium* spp., *Pseudoterranova*

decipiens, and *Vibrio parahaemolyticus*. (U.S.FDA, 2011). In fact, Ceviche was identified as the main source of a severe cholera epidemic happened in Peru during the 1990s. Over 3500 people died in that outbreak (Greenhalgh, 2008).

Despite the fact that Reulas was selling raw fish dish, the "homemade" part of the story is also alarming. The sanitation practices we follow when preparing food within our own kitchens are likely to be different from those followed by restaurants. Generally speaking, restaurants have more stringent sanitation plans, which are oversaw by inspection agencies to meet high food safety standards (hopefully!). Home cooking, on the other hand, is not strictly regulated and inspected by any authority— it all depends on personal decisions. Thus, the chances of food contamination are relatively high in private kitchens.

For all home-prepared food sold by others, we simply don't know how safe the ingredients are, whether they clean their kitchens well—it's even questionable whether they wash their hands before cooking.

But even if we assume Reulas washed her hands and disinfected her kitchen regularly and used the freshest and safest fish she could find on the market, risk of food contamination in our kitchens could still not be eliminated.

Food vector designed by Freepik

Firstly, pathogens could spread from other infected food in Reulas's kitchen to uninfected fish. For example, *Salmonella* on the surface of fresh produce and eggs, Hepatitis A virus on shellfish, and *Shigella* bacteria on raw chicken could all later on cling to the fish (URMS, n.d.).

Moreover, poor sanitation practices during food preparation increase the risk of cross-contamination of food-

borne pathogen. If Reulas used the cutting board to cut vegetables that were infected by *Campylobacter* but didn't wash her hands or the cutting boards before she started dicing the fish, *Campylobacter* could easily adhere to the surface of the fish.

Since no heating would be applied to the fish for ceviche, *Campylobacter* could remain alive in the salad and be ready to make troubles.

Therefore, in Reulas' case, government's ban on the sale of ceviche and any other uninspected homemade food before anything unfortunate happens is deemed rational and necessary.

But is it reasonable to blame it all on Reulas? Should we, as consumers, also take responsibility for our own food safety and health?

But who doesn't like sashimi?

What needs to be improved is public awareness on the possible risk associated with our own food choice. Even the word "homemade" makes your mouth water right away, or even a food exchange Facebook group is the only way to find your favourite speciality, purchasing home-prepared food, especially those high-risk ones made with raw ingredients from strangers meet on the internet, is compromising our own food safety—not a sensible choice at all.