Are vitamins a complete waste of money?

Happy new year! How are those new year's resolutions coming along? If you are anything like the majority of Canadians,[1] your commitment has already lapsed, but that doesn't mean you should give up. Many of us are striving to be better in 2023. Taking vitamins can be an appealing option—no starving, chopping vegetables, or sweating at the gym; just purchase, pop, and improve. But is it really that simple?

In 2022, *JAMA* published a study conducted by the US Preventive Services Task Force to assess vitamin, mineral, and multivitamin supplementation to prevent cardiovascular disease and cancer.[2] It represents the most thorough meta-analysis to date of every randomized controlled trial of vitamin supplements in adults. The data did not provide a compelling endorsement for vitamins. In fact, an article on Medscape summarizing the research was titled "It's official. Vitamins don't do much for health."[3] So, which is it? Are vitamins helpful or not? It turns out that the data are not as clear as we might hope for.

Let's dig into the specifics a bit more. The *JAMA* study recommended *against* vitamin E and beta-carotene to prevent cardiovascular disease and cancer, with beta-carotene possibly *increasing* lung cancer risk in people who smoke or are exposed to asbestos. Regarding single agents (vitamin D, vitamin A, calcium, folic acid, vitamin B12, vitamin C, selenium, vitamin B3, and vitamin B6) and multivitamin supplements, it concluded that current evidence is insufficient to assess the benefits versus the harms of use. Pooled analyses did not show an effect on all-cause mortality, cardiovascular disease, or cancer, but the authors acknowledged the limited generalizability and heterogeneity of the data. Importantly, they also specified that their conclusions do not apply to children, hospitalized people, or those with a chronic illness or nutritional deficiency and reminded us that those who could become pregnant should take at least 0.4 mg of folic acid daily.

I am cognizant that there are many other determinants of health and the *JAMA* publication was looking only at prevention of cardiovascular disease and cancer. However, because these are Canada's two leading causes of death,[4] they are appealing targets for any intervention intended to improve people's lives. Canadians spend over $4 billion[5] annually on vitamins, minerals, and supplements, with the most commonly stated reason being "overall wellness." Is their money going to waste?

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What we *can* say is that vitamins are not universally beneficial. In some cases they can cause harm, such as vitamin A with reduced bone mineral density, toxicity, or teratogenicity, and vitamin D–associated hypercalcemia and kidney stones. In terms of other products, we may not yet know which supplements are preventive of what, or in whom. Although taking a daily vitamin is low-risk, I am concerned that some people do not read beyond the Google summary before clicking to purchase. Furthermore, it's common to be taking more than one product and overlapping, thereby exceeding dose recommendations. Vitamin companies are clearly aware of consumers' short attention spans and desire for a quick fix. Some products even list the "benefits" right in their names. Perhaps the clever intention behind the Medscape article's oversimplified title was to elicit a pause; a concise interpretation of the data makes it easier to convey. But, as in many facets of medicine, more evidence and critical appraisal will be essential to inform our patients and help them navigate a potentially predatory market of unfounded promises.

As doctors we are often presented with a long list (or bag of bottles) of vitamins, supplements, tinctures, etc., which patients want us to review. "Are these pills worth taking, doctor?" they ask. How do you reply? It seems that, in many cases, the truth is that we really don't know. ■

—Caitlin Dunne, MD, FRCSC

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Speak-up culture = feedback culture

The *In Plain Sight* report recognized that Indigenous people experience racism in our health care system. The report recommended "that the BC government continue efforts to strengthen employee 'speak-up' culture throughout the entire health care system so employees can identify and disclose information relating to Indigenous-specific racism or any other matter."[1]

What is "speak-up" culture? How can it help us? How do we develop and nurture it within the health care system? I believe we can simplify the concept by thinking of speaking up in terms of providing feedback. In my experience, knowledge and skills are required to speak up well.

Speaking up through feedback can be a powerful tool to help us improve in our personal and professional lives, but it's not easy. In busy health care settings, it's sometimes easier to delay or avoid opportunities to give feedback.

Good feedback needs to be specific, actionable, timely, and delivered with compassion and curiosity. It takes practice! Providing feedback about explicit or implicit racial bias is even more complex due to the difficult emotions elicited. The person giving the feedback might feel anger, fear, or sadness. The person receiving the feedback will often feel shame.

Giving feedback about racism is not as common as it should be. Even if we want to, most of us do not know how to do it in an effective manner. When I give this kind of feedback, I try to provide it in a manner that protects those being harmed by the biased behavior without shaming the other person. Shaming people is not an effective social justice or educational tool,[2] as I can attest to personally. A friend of a friend posted an article on social media about questions you shouldn't ask same-sex couples who have kids. While out for dinner the week before I had asked one of these questions, and I went online to comment that I found the article useful and to apologize for not knowing better. But when I read a couple comments about how "stupid" people are, I didn't end up posting the comment or reaching out to apologize, because I felt attacked. I learned from the article but did so in shame and silence, and that relationship was never repaired.

Here are some principles for how to deliver feedback in a good way:

- Speak to the person privately.
- Establish a connection with the person.
- Ask them about the behavior you observed.
- Provide your feedback about the behavior observed.
- Keep the dialogue open.

These conversations can be difficult, which is exactly why these skills need to be taught and practised in order for people to feel confident to use them in the real world. As a cultural safety educator, I prefer "calling people in" rather than calling them out. Calling people in means you assume their intention was not to harm and that they do not understand the impact of their behavior, that when they know better they will do better.

Receiving feedback can also be difficult. It requires us to be open, reflective, and honest with ourselves. Understanding the trauma response and how to develop shame resilience can be helpful. Racism is often seen as a moral issue: you are either racist or you are not, and if you are found to be racist you are a bad person. Therefore, when someone is told their behavior is biased, they can feel as if their character is being attacked. This is followed by shame, which triggers a trauma response in the form of either fight (challenge), flight (deny, avoid), or freeze (blank, no words). These responses are all normal. When someone is in a fight, flight, or freeze response, they are able to respond only from their limbic brain; their prefrontal cortex is offline. In other words, they cannot listen to you meaningfully.

Shame thrives in secrecy and silence.[3] To counter the shame around racism, we need to be able to talk about it. We can use the same strategies that are used to address the shame and fear around acknowledging a medical error. This includes normalizing (i.e., we all make mistakes) and creating safe spaces to report and talk about medical errors (i.e., morbidity and mortality rounds). We all have racial bias because we grew up and live in a world with racial bias, including anti-Indigenous bias. We need to normalize that we can all be racist and create mechanisms to report racism and talk about racism. I would like to see education and training opportunities that teach how to give and receive feedback about racism developed and implemented at all levels of medical education so that we all feel empowered to speak up.

I believe having these courageous conversations will have a profound impact on preventing anti-Indigenous racism at the bedside and will save countless lives. ■

—Terri Aldred, MD

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