

Dietary Supplements A Disturbing Trend

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As presented at the University of Toronto's
Family Medicine Forum (November 2004)



Dietary supplements are products that contain nutrients or other food components that people use to gain something they feel may be lacking in their diet. Many athletes take them hoping to gain an “edge” or “advantage” on the competition. Dietary supplements include vitamins, minerals, extracts, probiotics, fatty acids, botanicals, herbs, amino acids, enzymes, metabolites and glandulars.

What do we know about the dietary supplement industry?

The dietary supplement industry has become an extremely lucrative business in Canada. There are thousands of products on the market promising cures for everything from the common cold to cancer. This industry is currently under-regulated and so manufacturers have not had to provide scientific evidence to support their claims and are under no regulatory obligation to ensure their products contain exactly what is listed on their labels.

Manufacturers use the Internet extensively and spend millions of dollars advertising the benefits of their products. The constant bombardment of information from the media can make it very confusing for consumers and clinicians to know the facts and the potential dangers of using these products.

Philip's case



- Philip, 43, was diagnosed with metabolic syndrome six months ago.
- At that time, he was leading an inactive lifestyle. His profile was as follows:
 - Body mass index: 33.2
 - Blood pressure: 152/92 mmHg
 - Total cholesterol: 6.28 mmol/L
 - Low-density lipoprotein cholesterol: 4.3 mmol/L
 - Triglycerides: 3.6 mmol/L
 - High-density lipoprotein cholesterol: 0.85 mmol/L
 - Fasting blood sugar: 6.3 mg/dL
 - Electrocardiogram: Normal
- He was advised to make some serious lifestyle changes to see if this would reduce his risk factors.
- He has progressed to doing 45 minutes of treadmill walking, followed by 30 minutes of general body exercises three times a week.
- He presents to you complaining he has recently started feeling a generalized body tightness when he exercises and that towards the end of his workouts, he occasionally gets painful cramping in his legs.

What are some things that could trigger this change?

For more on Philip, go to page 82.



More on Philip's case

1. What are some things that could trigger this change?

Some areas to explore would be:

- Sudden large increases in workload
- Inadequate hydration
- Medication changes
- Possible electrolyte imbalances due to strict dieting
- Dietary supplement use

Philip admits that in an effort to accelerate his fitness, he recently started taking creatine on the advice of his fitness instructor. He did not find it helpful, so he has been taking double the recommended dose.

2. What are the common side-effects associated with creatine use?

- Water retention
- Abdominal cramping, nausea, diarrhea
- Sleep disturbance
- Muscle tightness and cramping
- Compartment syndrome

3. What important advice could you provide Philip at this time?

Philip should be advised to discontinue the creatine, as it is very likely the cause of his muscle tightness and cramping. This would also be a good time to remind him that dietary supplements are unregulated and many of them contain products that could be harmful to his health. He should also be reminded that he is doing very well and encouraged to continue with his new active lifestyle.

What makes people want to use dietary supplements?



As a testimony to the success of advertising, many Canadians are looking to dietary supplements for a wide variety of reasons, such as:

- weight loss,
- muscle gain,
- personal fitness,
- improved appearance,
- higher energy levels,
- antidepressant,
- competitiveness,
- fighting the effects of aging and
- disease prevention and treatment.

Many of the product advertisements are written in pseudoscientific language and refer to the results of studies that fail to meet even the most basic concepts of the scientific process. The bottom line is that many Canadians are convinced dietary supplements are a safe and easy way to improve health and happiness.

What are some of the concerns regarding dietary supplements?



Natural doesn't mean safe

Many supplements claim they are safer than medications because they are derived from natural sources. Remind your patients that most prescription drugs are derived from plants and that, while they are completely natural, some plants are poisonous.

Contamination

Some dietary supplements have been found to contain lead, broken glass, animal feces and substances, such as anabolic steroids.

Spiking

Some manufacturers add substances like ephedrine to their products and then fail to declare the substance on the label.

Labeling

There is no guarantee the supplement being used contains what is listed on the label and that it does not contain some unlisted surprises. Products like ephedrine are often listed under misleading names, such as Ma Huang, Yellow Horse, Desert Herb and Sea Grape.

Interactions...

With medications

Some supplements have been shown to interact with medications. For example, at high doses, glucosamine may have an additive anticoagulant effect.

With supplements

Ephedrine and caffeine are a dangerous combination found in many “fat burner” products. The combination is associated with a number of deaths. Some people take a veritable cocktail of supplements on a daily basis without knowing the immediate or long-term health consequences.

With medical conditions

We know that some supplements can affect the management of specific medical conditions. For example, glucosamine may elevate blood sugar levels and so people with diabetes who start using this product should initially be monitored more closely.

Lack of research

Little research has been done on the efficacy and the long-term effects of using these products.

Excessive use

Many people are taking more than the recommended doses of these products, often because they are convinced if a little is good, more must be better.

Costs

Many of these products are expensive and some people are wasting hundreds of dollars per month on products with no proven efficacy.

► Take-home message

- The majority of dietary supplements do not work.
- Natural does not mean safe.
- You can't trust the label.
- Dietary supplements can cause serious side-effects.
- Dietary supplements can interact with medications and complicate the management of many medical conditions.

Therefore, be sure to ask your patients if they are taking supplements.

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Useful Web sites:


- www.quackwatch.com
- www.consumerlab.com
- www.cces.ca
- www.wada-ama.org

Athletes

With no guarantees on the contents of dietary supplements, athletes who use them risk testing positive for a banned substance. More information on this issue can be obtained from the Canadian Centre for Ethics in Sports at www.cces.ca or 1-800-672-7775.

What is Health Canada doing?



As of January 1, 2004, Health Canada began a six-year, progressive implementation of the Natural Health Products Regulations. These regulations are aimed at ensuring the manufacturers of dietary supplements sold in Canada comply with good manufacturing practices. The new rules will ensure labels accurately reflect what is in the bottles and that there is research to substantiate any health claims made before a product is offered for sale. Unfortunately, this will not prevent many patients from buying whatever they want from the Internet. 

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