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What's in Your Fish Oil Supplements?

By ANAHAD O'CONNOR

Millions of Americans take fish oil supplements to promote heart and vascular health. But a new analysis suggests that some consumers may not always get what they are paying for.

The new research, carried out by a testing company called LabDoor, analyzed 30 top-selling fish oil supplements for levels of omega-3 fatty acids, a group of compounds with anti-inflammatory effects. It found that six of those products contained levels of omega-3s that were, on average, 30 percent less than stated on their labels.

The research found more problems when it looked specifically at levels of two particular omega-3s that are promoted for brain and heart health: docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). Tests showed that at least a dozen products contained DHA levels that were, on average, 14 percent less than listed on their packaging.

According to the Nutrition Business Journal, fish oil products generated about \$1.2 billion in sales in the United States last year, making them among the most popular dietary supplements on the market. But like most supplements, they are largely unregulated. Companies do not have to register their products with the Food and Drug Administration or provide proof that the capsules and liquids they sell contain the ingredients on

their labels and the doses advertised.

Researchers and health officials say that mislabeling is a frequent problem in the supplement industry.

A number of studies suggest that regular fish consumption is protective against heart disease, and some research suggests it may lower the risk of Alzheimer's disease and other chronic conditions as well. The American Heart Association recommends that Americans eat two servings a week of fatty fish rich in omega-3 fatty acids, and it points to studies showing that fish oil supplements help reduce the rate of cardiac events in people with cardiovascular disease.

Omega-3s are also essential for brain and nervous system health, said Dr. Joseph C. Maroon, a neurosurgeon at the University of Pittsburgh Medical Center and the author of "Fish Oil: The Natural Anti-Inflammatory." Eating fatty fish high in omega-3s and low in mercury and other contaminants, like sardines and wild salmon, is ideal, he said, but fish oil supplements can be an alternative.

"I think it's one of the most important supplements people can take," said Dr. Maroon, who is also chair of the medical advisory board for GNC, the nation's largest specialty retailer of dietary supplements. "The omega-3 fatty acids are essential for so many functions in the body."

But research on fish oil has not been conclusive. A large meta-analysis of high quality clinical trials published in 2012 found that purified fish oil supplements did not appear to help people with a history of heart disease, though some experts questioned whether the patients studied had been taking the pills long enough to see an effect. Other research has raised questions about whether high levels of omega-3s may raise the risk of prostate cancer.

In the current analysis, researchers carried out detailed tests to assess

the supplements' omega-3 content, their levels of mercury, and the extent to which they showed any signs of rancidity or deterioration. Samples of each product were either purchased online on sites like Amazon or bought off the shelves in stores and tested immediately.

Then they were ranked according to quality and value. Among the companies whose supplements ranked highly were Nordic Naturals, Axis Labs and Nature Made. LabDoor, which is funded in part by the investor Mark Cuban and by Rock Health, a nonprofit digital health incubator, posted its full list of rankings and results on its website.

The company found that several of the products it tested compared favorably to Lovaza, the prescription fish oil marketed by GlaxoSmithKline that can cost hundreds of dollars for a one-month supply. Lovaza is a prescription drug held to strict regulations, so it is subjected to regular quality control tests. But some of the products analyzed by LabDoor contained similar or greater levels of omega-3s at a fraction of the cost.

The analysis showed, however, that mislabeling was not uncommon, affecting at least a third of the supplements tested. One of the products had only half the amount of DHA advertised, for example, and another contained only two thirds, said Neil Thanedar, the chief executive of LabDoor. There were also several products that did not mention DHA content on their labels at all.

As for heavy metals, the study found that all of the products tested contained only very low levels of mercury, ranging from one to six parts per billion per serving. That range is far below the upper safety limit of 100 parts per billion set by the Global Organization for EPA and DHA Omega-3s, or GOED, an industry trade group.

The data provide a good starting point for people considering taking a

fish oil supplement, said Philip Gregory, the editor in chief of Natural Medicines Comprehensive Database, which evaluates evidence on dietary supplements. But much of the recent evidence on the supplements has been negative, he said, and it is not clear that most people gain anything from taking them.

“It may be that for people with heart disease who are already well treated with statins or high blood pressure medication, fish oil supplements may not offer any additional benefit,” he said. “Similarly, for those who already consume fish in their diet, adding a supplement probably doesn’t offer additional benefit.”

Another caveat applies to the testing itself. Dr. Gregory said that the new research provides “a snapshot in time,” which may not be a reliable indicator of the overall quality of a line of supplements. Dr. Gregory recommends that consumers check with the USP Dietary Supplement Verification program, a nonprofit group that does regular spot checks on certain supplements and provides a seal to the ones that meet its requirements. Products that carry the seal are widely considered high quality. But the program is voluntary, and as a result many supplement makers do not take part in it.

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