Increased fish and fish oil consumption may be causing more environmental and social harm than good as it is putting pressure on dwindling global fish stocks, researchers say.

In addition, claims about the health benefits of eating fish, long touted as reducing the risk of ailments such as heart disease and stroke, may have been exaggerated, according to a study published in the Canadian Medical Association Journal. Declining fish catches are increasingly diverted toward affluent markets, researchers found, with “dire consequences” for the food security of poorer nations, islands, and coastal communities.

“Our concern is that fish stocks are under extreme pressure globally and that studies are still urgently required to define precisely who will benefit from fish oil,” says lead author Dr. David Jenkins, a doctor at St. Michael's Hospital in Toronto and a professor at the University of Toronto’s Department of Nutritional Sciences.

The peer reviewed study was prepared by medical scientists from St. Michael's and U of T who teamed up with researchers from the University of British Columbia's Fisheries Centre. One of the co-authors was prominent writer and environmentalist Farley Mowat.

Increased demand for fish and fish oil in developed countries is putting pressure on dwindling global fish stocks. (Chris Furlong/Getty Images)

Health practitioners promote eating fish but even at current levels of consumption, fisheries globally have reached a state of “severe crisis,” said the study. Already, the demand from developed countries and newly affluent developing nations—particularly China—cannot be met by the world's fisheries.

Global catches have been in decline since the late 1980s, and the number of collapsed stocks has been increasing exponentially since 1950. There are also over 100 confirmed cases of extinctions of marine
populations in the world's oceans.

When projected forward, these trends imply the collapse of all commercially exploited stocks by midcentury.

“Yet the dire status of fisheries resources is largely unrecognized by the public, who are both encouraged to eat more fish and are misled into believing that we still sail in the sea of plenty,” the researchers wrote.

The collapse of fish stocks in many regions has put “intense pressure” on developing countries either to allow foreign fishing fleets access to their coastal fishing grounds or to export local fish to countries such as the United States, Japan, and EU nations.

“In either case, the local markets of developing countries, where basic nutrition and health are challenges, are deprived of an important source of protein for the sake of the developed world, whose major problems are over-nutrition and physical inactivity,” the researchers found.

Expanding aquaculture is not the answer because farmed fish such as salmon and sea bass require a high-protein diet: it takes between 2.5 and 5 kilograms of fish feed to produce one kilogram of farmed fish.

There are also the problems of environmental damage from fish farms and “harmful algae blooms and the transmission of parasites from farmed fish to wild fish populations.”

The researchers found that while some studies indicate benefits from consuming the omega-3 fatty acids found in fish oils, others—to which “insufficient attention” has been paid—show minimal benefits. They said more studies are needed to clarify the benefits of omega-3 fatty acids.

“At best, fish oils are likely only one factor among others that may reduce the risk of coronary artery disease. Certain groups of people who are otherwise healthy and do not eat fish, such as vegetarians, are not at increased risk of heart disease,” the study said.

Dr. Jenkins says that “if we decide that fish oil supplementation is necessary for good health,” then unicellular sources such as blue-green algae and yeasts can be used instead. These are already added to infant formula, he says.

UBC fisheries researcher Daniel Pauly, also a co-author of the study, says that for people in developed nations, eating fish is one of many possible options for a balanced meal. Not so for those in poor countries.

“For many people in developing countries, fish is often their only source of protein. It would be irresponsible for us to 'triage' food sources without verifying that fish oil indeed promotes human health.”

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