A recent study has found that global warming may reduce the availability of DHA. And by 2100, about 96% of the overall population may not have enough access to this essential fatty acid. The journal “Ambio” has published the results of the study.

**DHA production and varying global warming scenarios**

DHA – docosahexaenoic acid is one of the essential fatty acids. It is an omega-3 fatty acid, abundantly found in mammalian brains. DHA has a vital role in various processes of the body. That may include cell survival, inflammation, and neuroprotection.
In spite of its crucial role in brain development and health, the human body is unable to produce this fatty acid in enough amount. So, a human relies on the dietary sources of DHA to fulfill the needs of the body and function properly.

A few sources of these brain-building fatty acids are fish, seafood, and supplements. Some scientists have collaborated to develop a mathematical model. And the research team has used this model to examine the potential reduction in available DHA with changing scenarios of global warming.

In the aquatic food chain, algae are primarily responsible for the production of DHA. And even minor changes in temperature can affect the biochemical reactions involved in this process. The research team has observed the impact of the constant increase in global warming.

And the results of the study have shown that a decrease in DHA production due to global warming along with increased population growth can lead to insufficient access to DHA. And nearly 96% of the global population may not have enough supply of DHA from domestic fish production.

But a few countries like Chile, Norway, and New Zealand, may still be able to consume the suggested dose of DHA. That is about 100 mg/day. These countries have relatively low populations and large fish production. In contrast, excess DHA production in the largest countries in East and South-East Asia and most of the countries in Africa may fall below the threshold of the suggested dose.
The mathematical models used in this study have led to some other findings. They have shown that in the next 80 years, global warming can lead to a 10 – 58% reduction in the globally-available DHA. Whereas the reduction in the levels will have maximum effect on the vulnerable populations.

Lower levels of DHA have also an impact on the periods of human development, like infants and fetuses. While predatory mammals, specifically those living in Polar regions are also affected. The authors have used the data from the database of the Sea Around Us project, to check the per year production of DHA in every fishing zone of the United Nations.

It gives reconstructed fisheries data to assess the impact of fishing on marine animals. The authors have also analyzed the data from the UN for aquaculture production data and global inland fisheries catch. While they have predicted the increase in temperature by using scenarios of global warming. That are outlined in the AR5 – Fifth Assessment Report of the United Nations IPCC.

Further analysis has shown a greater decline in the DHA of the freshwater fishing zones in contrast to the marine ones. While this difference is attributed to a larger increase in temperature in freshwater zones than oceans. So, the variances in the access to DHA may have a greater effect on certain areas of the world, like inland Africa.

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