THE COLLABORATIVE ON HEALTH AND THE ENVIRONMENT - WASHINGTON

RESEARCH AND INFORMATION WORKING GROUP

CONTAMINANTS IN FOOD AND FISH

FACT SHEETS ON HEALTH AND ENVIRONMENT IN WASHINGTON

INTRODUCTION

There are many chemical contaminants in food and fish, including pesticide residues, heavy metals such as mercury, PCBs, dioxins and other toxic substances.

Contaminant levels in different types of food and fish depend on many factors. Foods that are lower on the food chain, such as vegetables, grains and fruit, are likely to have lower levels of contaminants than foods higher on the food chain, like dairy products and meat.

Approximately 80 to 99% of human exposure to most persistent toxic chemicals occurs from food, with air and drinking water contributing much smaller exposures.

CONTAMINATED FOOD AND FISH IN WASHINGTON STATE

- A typical daily diet in the western US can deliver about 66 exposures to persistent toxic chemicals each day.[1]
- In one study, eating organic foods reduced Seattle area children's exposure to organophosphorus pesticides from above to below the Environmental Protection Agency's current guidelines.[2]
- In 2005, there were 14 site-specific and species-specific fish and shellfish consumption advisories in Washington state issued by the Department of Health.[3] These advisories were for a variety of contaminants including mercury in shellfish, crab and rockfish. There is also a statewide advisory for mercury in smallmouth and largemouth bass, as well as site-specific shellfish beach closures.
- Mercury, chlorinated pesticides, and PBDEs (polybrominated diphenyl ethers) were found in fish collected around Washington state.[4]
- Largemouth bass from Kitsap and Vancouver Lake had the highest mercury levels in 2002.[5] Mercury affects the brain and nervous system, particularly in developing fetuses and children.

- Many chlorinated pesticides, such as DDT, are neurotoxins and carcinogens and were banned in the 1970s and 1980s, but remain in fish and wildlife because of their high persistence. DDT was found in fish from Moses Lake and American Lake.[6]

- PBDEs are used as flame retardants and have been linked to developmental neurotoxicity, reproductive effects, thyroid hormone disruption and liver changes. Fish from the Spokane River were found with 1,250 parts per billion PBDEs in their tissue.[7] This is considered high.

- People who eat large amounts of fish from the Columbia River Basin may face 50 times the cancer risk of the general public because of the high levels of pollutants found in fish, particularly DDE (a breakdown product of DDT), PCBs, chlorinated dioxins, and furans.[8]

- American Indians and some other ethnic groups consume more fish and shellfish than whites. One study found that some American Indians face 50 times the cancer risk of the general public.[9]

COMPARING WASHINGTON STATE NATIONALLY

- Conventional meal plans in the western United States have the second highest number of exposures to persistent toxic chemicals, with 66 exposures. The southeast has 70 exposures, the midwest 63 and the northeast 64.[10]

- The national Total Diet Study looks at toxics in food,[11] but information cannot be separated out by state. Therefore, it is not possible to compare Washington with other states or nationally using this data.

- There is a need for more state-specific data on food and fish in Washington.

SOURCES

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