

# How iodised is your lifestyle?

Iodine is more important than we think, forming the regulatory hormones for metabolism and brain functioning, say Dr T K Sabeer and Dr A Bhattacharyya

Iodine is grayish-black in colour and is a trace mineral necessary for thyroid gland function and development. The oceans are the most important source of natural iodine. Iodine in the oceans enters the air from sea spray. Once in the air, iodine can enter the soil or land on vegetation. Plants that grow in the soil take it up.

Most of the iodine that enters our body comes from the food we eat. The iodine that leaves our body each day is usually replaced by the iodine that we take in. Lobster, milk, mushrooms, nutritional yeast, bread, oysters, canned salmon, salted nuts and seeds, saltwater fish like cod, haddock, and herring, sea salt, seaweed, shrimp and table salt are rich sources of iodine.

Iodine is necessary to form thyroid hormones, which regulate the body's metabolism. It also promotes normal cell function, keeps skin hair and nails healthy and is important for overall growth and development. Iodine is also added to food, such as table salt, to ensure that people have enough iodine in their bodies to assist the formation of essential thyroid hormones. Iodine also helps eliminate toxins. Radioactive iodine is used in the

treatment of hyperthyroidism.

IDD (Iodine Deficiency Disorder) affects over 740 million people, 13% of the world's population. IDD preys on poor, pregnant women and preschool children. Until recently, iodine deficiency was the world's most prevalent cause of brain damage. Today, we are on the verge of eliminating it. As developing nations are making the shift to iodized salt, their rates of iodine deficiency and diseases associated with it are declining. Excessive consumption of cabbage, cauliflower and radish can cause iodine deficiency. These foods contain a substance that reacts with iodine and makes it unsuitable for absorption.

The amount of iodine present in the body of an adult is estimated to be about 25 milligrams. Most of it is concentrated in the thyroid gland, where it is stored as thyroglobulin. About 30 percent is removed by the thyroid gland for the synthesis of the thyroid hormone, thyroxine, and the rest is excreted by the kidneys.

These hormones play a major role in regulating growth and development of the body, and influence the maturation of the reproductive system. Iodine helps regulate efficient



burning of calories and preventing excess calories from being stored as more fat than

the body needs. It maintains the energy level of the body and helps keep the skin, teeth, nails

and hair strong and healthy.

Children are more sensitive to the harmful toxic effects of iodine than adults because their thyroid glands are still growing and its tissues are more easily harmed by radioactive iodine. Babies and children need iodine to form thyroid hormones for growth and health. If they have too much iodine in their bodies, they may develop an enlarged thyroid gland (goiter), which may not produce enough thyroxine for normal growth. Also, serious iodine deficiency during pregnancy may result in stillbirths, abortions and congenital abnormalities such

as cretinism, an irreversible form of mental retardation. The mild symptoms of iodine deficiency range from feelings of frustration and anxiety to depression. Physical symptoms of hypothyroidism include dry, scaly skin, constipation, fatigue, unusual weight gain, goiters, impaired thyroid operation, decreased fertility, increased rate of stillbirth, and growth abnormalities.

Because iodine cannot be stored for a long while in the body, tiny amounts must be consumed regularly, but food grown in iodine-poor soil will not provide sufficient dietary iodine. Most people, however, are able to meet their iodine requirements by eating seafood, seaweed, iodized salts and plants grown in iodine-rich soil.

Toxicity is only caused from excess iodine supplements, not food sources. Irregular heartbeat, confusion, breathing difficulties, swollen neck and black stools may result. Small amounts of radioactive iodine can enter air from nuclear power plants which process uranium and plutonium. Larger amounts have been released to the air from accidents at nuclear power plants and from nuclear bombs. People are almost never exposed to radioactive iodine, unless they work in a place where radioactive iodine is used or if their doctors give it to them. Radioactive iodine is also used in certain medical tests and treatments.

## IODINE FACT FILE

Following are the recommended daily allowances for iodine:

- Infants 40-50 micrograms
- Children
  - One to three years 70 micrograms
  - Four to six years 90 micrograms
  - Seven to 10 years 120 micrograms
  - 11 + years 150 micrograms
- Pregnant women 175 micrograms
- Lactating women 200 micrograms
- Adult men & women 100-200 micrograms

