

NUTRITION

1. Use all of these words to produce a meaningful text

malnutrition deficiency protein vital organs
adequate diet undernourished mental retardation calories

2. Read the text and underline the expressions that indicate the cause-effect relationship

Many diseases may result if a person is not fed an adequate diet. Protein deficiency diseases such as *kwashiorkor* are particularly damaging: they lead to mental retardation particularly when they occur in young children. Vitamin and mineral deficiencies can lead to weak bones, loss of teeth, blindness, or failure of any of a number of vital organs. Children who do not receive either sufficient protein or calories develop characteristic bloated bellies, thin arms and legs, wide eyes and shrivelled skin. Perhaps even more sinister is the fact that severe malnutrition in young people leads to early and irreversible brain damage. This results in a negative feedback cycle, for if undernourished and irreversible brain damage. This results in a negative feedback cycle, for if undernourished and retarded children do survive to become adults, they have decreased learning ability. Therefore, when they grow up, they will be likely to have a hard time finding work, and if work is

found it is often of the kind that pays the least money. When these impoverished adults in turn have children, their young are likely to be undernourished as well, thereby perpetuating the tragic cycle.

Other diseases caused by nutritional deficiency are common throughout the world. By one estimate, a quarter of a million children become permanently blind every year because their diets are deficient in Vitamin A. Another 200,000 people per year become deaf owing to a lack of iodine. An additional uncounted number of individuals die of infectious disease because their bodies and immune systems have been weakened by hunger and lack of proper nutrients. All told, some 15 million people starve to death or die indirectly from malnutrition every year.

Source: Turk, J., Turk, A. (1984) Environmental Science, CBS College Publishing, New York

3. Now complete the white boxes of the table

| Causes | Results |
|--------------------------------|--|
| protein deficiency | mental retardation |
| vitamin and mineral deficiency | |
| | bloated belliew, thin arms and legs, wide eyes and shrivelled skin |
| severe malnutrition | |
| lack of vitamin A | |
| | deafness |
| lack of zinc | |
| lack of iron | |
| lack of vitamin A | |
| folic acid deficiency | |

4. Homework: Practise the cause-effect markers in IS

5. Listen to the key expressions of the following text

(http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/040324_witn.shtml)

6. Match the halves of the sentences. The left-hand column is in correct order.

| | |
|--|---|
| 1. Ten years ago a lack of vitamins and minerals was only seen as a relatively minor problem, | A. which the report estimates could prevent a million deaths each year alone. |
| 2. Data from eighty countries shows the huge impact that these micronutrients have - at least a thousand women die during childbirth every week because of severe anaemia caused by a lack of iron, | B. while iodine deficiency during pregnancy is leading to twenty million babies a year being born mentally impaired. |
| 3. But the authors of the report say that these problems can be overcome very easily. Food fortification that's already widespread in the developed world is cheap - | C. but this new report claims that vitamin and mineral deficiency is having a severe effect on two billion people worldwide. |
| 4. Giving a child enough vitamin A for a whole year costs only 5 cents, this will not only prevent blindness but boost the immune system, | D. - it costs just a few cents per tonne to add iron to flour - and supplements are also very inexpensive . |

7. Listen to the recording and check your order

(http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/040324_witn.shtml)

8. Study the information on micronutrients and complete the table from Task 3

Vitamin A deficiency

Vitamin A is vital to healthy growth, especially for infants and young children. It regulates a number of biological processes, including growth, vision, reproduction and cellular differentiation. A person cannot survive without vitamin A. Vitamin A must be provided from the diet in adequate amounts to meet the body's physiological needs.

Recent trends indicate that there is a general decline in the prevalence of severe vitamin A deficiency; however, numerous studies have shown that mild vitamin A deficiency is pervasive in most of the developing world. It is the leading cause of preventable childhood blindness in developing countries. It is also an increasingly recognized problem among

<http://www.earthscan.co.uk/Portals/0/Files/Sample%20Chapters/9781844075461.pdf>

rural women in many countries and suspected to be a major underlying cause of maternal mortality. Newborns and women with vitamin A deficiency are at greater risk of illness. Immediate postnatal vitamin A supplementation in mothers leads to increased vitamin A passed on to the infant during breastfeeding (Basu et al., 2003).

VITAMIN A DEFICIENCY

Life cycle stage Hunger/health risk
Pregnancy Implicated in maternal mortality.
Infants and increased risk of dying from diarrhoea, measles and young children other diseases.

Increased risk of blindness, chronic ear infection and respiratory diseases.

Iron deficiency

Iron helps to produce energy by carrying oxygen to red blood cells. Iron deficiency is one of the most common nutritional disorders worldwide, stealing vitality from the young and the old and impairing the cognitive development of the undernourished. The highest risk groups for iron deficiency are pre-term and low-birthweight babies, infants and children during periods of rapid growth, women of reproductive

<http://www.earthscan.co.uk/Portals/0/Files/Sample%20Chapters/9781844075461.pdf>

age, pre-menopausal women and pregnant women. It is important for women to enter into pregnancy with sufficient iron levels and maintain these throughout pregnancy; chronic iron deficiency can also lead to anaemia among lactating women (Dugdale, 2001). Newborns and pre-school children face cognitive and cerebral damage with life-long negative effects caused by anaemia. Anaemia is also associated with hookworm infestation.

Folic acid deficiency

Folic acid is critical for pregnant mothers and newborn babies: it works with vitamin B12 to form healthy red blood cells. Folic acid helps to reduce the risk of neurological defects in foetuses and is essential for the development of an infant's neurological system (Green, 2002). If a mother

remains underweight during pregnancy with a serious deficiency of folate concentration, the foetus faces an increased risk of pre-term delivery, low birthweight and growth retardation (Johnson et al., 2005).

<http://www.earthscan.co.uk/Portals/0/Files/Sample%20Chapters/9781844075461.pdf>

Zinc deficiency

Most children in developing countries consume very small amounts of animal proteins – the dietary source of zinc with the highest bioavailability – which explains why zinc deficiency may be one of the most prevalent nutritional disorders in children in developing countries.

Zinc deficiency is largely related to inadequate intake or absorption of zinc from the diet, although excessive loss of zinc during diarrhoeal episodes is common. It is

associated with difficulties during pregnancy and childbirth, compromised immune responses and increased risk of infectious diseases – zinc is a major factor in diarrhoeal disease, pneumonia and malaria, low birthweight and stunted child growth. Therefore, adequate intake of zinc becomes crucial for all children, as they generally suffer from a higher risk of infectious disease (WHO, 2002).

<http://www.earthscan.co.uk/Portals/0/Files/Sample%20Chapters/9781844075461.pdf>

Iodine deficiency

Iodine deficiency is the primary cause of preventable mental retardation and brain damage, having the most devastating impact on the brain of the developing foetus and young children in the first few years of life. Iodine deficiency also increases the chance of infant mortality, miscarriage and stillbirth.

Most children born to iodine-deficient mothers appear normal but have also suffered brain damage and loss in IQ points, affecting their ability to develop to

their full potential. These seemingly normal children will later have difficulty learning in school and staying in school.

Some children born to iodine-deficient mothers can suffer from extreme physical and mental retardation manifesting in goiter (an enlarged thyroid gland), speech defects, deafness and cretinism. These children, however, represent only the tip of the iceberg; in addition, in many cases it is too late to reverse these effects.

http://www.unicef.org/nutrition/index_iodine.html