About vitamin A deficiency

Every year, 11.3 million children under 5 years old die in the developing world, over six million of them directly or indirectly from malnutrition. Millions more children are malnourished. Less strong and less healthy than they should be, they have fewer opportunities to reach their full potential in life.

The problem of vitamin A deficiency (VAD) is global. It affects more than 100 million children and is responsible for as many as one out of every four child deaths in regions, countries and communities where the problem exists. Now, there is also more and more evidence that VAD increases the risk of maternal death.

Vitamin A is essential for the functioning of the immune system. Giving vitamin A supplements to children who need them increases their resistance to disease, and improves their chances for survival, growth and development.

In the past, VAD has been seen merely as a cause of blindness, and in many countries vitamin A activities are still limited to blindness prevention programmes. In other countries, no action has been taken and no assessment of the problem exists. About 30 countries will achieve the Year 2000 goal of elimination of VAD. Many more will not.

It is now clear that elimination of VAD as a public health problem must be a principal element of child survival and maternal survival programmes where the problem exists. Eliminating VAD as a public health problem is a challenge the world must take on today.

Safety of vitamin A supplements

Concerns have been expressed in many countries about the dangers of toxicity of high-dose vitamin A supplementation. But the benefits of vitamin A supplementation far outweigh any side effects, which are transient and very rare.

Most vitamin A supplementation programmes use high-dose capsules. These doses are completely safe for children when given at least a month apart. Safe lower doses have been established for pregnant women.

Improving vitamin A status of deficient children increases their chances of survival:
- Death from measles can be reduced by 50 per cent
- Death from diarrhoea can be reduced by 40 per cent
- Overall mortality can be reduced by 25 per cent

Improving vitamin A status of children reduces the severity of childhood illnesses:
- Less strain on clinic and outpatient services
- Fewer hospital admissions
- Contributes to the well-being of children and families

Improving vitamin A status also:
- Prevents night blindness, xerophthalmia, corneal destruction and blindness
- May reduce birth defects
- May prevent epithelial and perhaps other types of cancer

Improving vitamin A status may reduce maternal mortality:
- Improves resistance to infection
- Helps reduce anemia

Improving vitamin A status is very cost-effective:
- Just a few cents per capsule
- Reduces health costs by lessening hospital and clinic visits
- Easily integrated into existing public health/immunization programmes
Action need not wait for assessment

Many countries or regions may not realize that VAD is a problem, since they do not have up-to-date national-level assessments of the prevalence of VAD.

National-level assessments should take place as soon as possible in all countries that do not have such assessments. But action to eliminate VAD should not wait for the results of these surveys.

Some countries have carried out assessments using ocular indicators, such as Bitot’s spots. However, these ocular signs are associated with advanced stages of VAD. Women and children may be at needlessly high risk of dying long before any eye problems are evident.

A high infant-mortality or under-five mortality rate (U5MR>70) should be taken as an indicator of a likely VAD problem, especially if it is also known that overall child malnutrition and low birthweights are prevalent and consumption of vitamin A-rich foods is low.

Governments in countries with high infant or child mortality should work with partners to put in place a programme for control of VAD, including assessment of the problem, as part of a comprehensive strategy to reduce child mortality.

PROGRAMME ACTIVITIES

There are a number of ways to improve the vitamin A status of populations. Vitamin A-rich foods are not always readily accessible to people who need them. In many parts of the industrialized world, food products are fortified to ensure that populations receive adequate amounts of the vitamin. In many countries, children and adults alike take daily vitamin supplements. The following are the fastest and most cost-effective approaches to improving vitamin A status of populations.

**Vitamin A supplements** can end VAD as a public health problem. Supplementation is:
- cost-effective
- safe
- sustainable
- easily implemented on a national scale
- can be carried out for many years

Supplementation using vitamin A capsules should begin at six months old in areas where children do not get enough vitamin A in their diets. Mortality reduction potential is very high, and the benefits of high-dose supplements far outweigh the very rare and transient side effects. Capsules cost just a few cents each and can be distributed through expanded programmes on immunization, National Immunization Days or other public health contacts.

**Breastfeeding support** is key to reducing VAD among young children. New mothers should receive a high-dose vitamin A supplement within 8 weeks of delivery in areas where deficiency exists.

In some countries, where industrial and commercial infrastructure is adequate, **fortification of food staples** like flour, sugar and margarine can help end VAD.

Fortification can be very cost-effective. Dietary improvement, including ensuring regular access to foods that are naturally rich in vitamin A, will be part of a long-term-strategy in many countries.