

VITAMIN & MINERAL DEFICIENCY

For decades the rich countries have been getting essential vitamins and minerals to most of their people – protecting brain development, reducing death and disease, and increasing energy and productivity. Isn't it time the poor countries did the same?

**INVESTIGATING VM
DEFICIENCY – A CHALLENGE
TO MEDIA PROFESSIONALS**

“It is no longer a question of treating severe deficiency in individuals. It is a question of reaching out to whole populations to protect them against the devastating consequences of even moderate forms of vitamin and mineral deficiency.”

Carol Bellamy, Executive Director, UNICEF

“We now have the knowledge and the solutions that can protect the muscles, brains, and blood of whole populations at an extraordinarily low cost.”

Venkatesh Mannar, President, The Micronutrient Initiative

“Fortifying foods with basic vitamins and minerals is both essential and affordable.”

Bill Gates, co-founder, Bill and Melinda Gates Foundation

“For nearly 40 years, food fortification has protected the populations of the United States, Canada, and many other countries. It is long past the time when the same protection was available to the peoples of the developing world.”

Nevin Scrimshaw, President, International Nutrition Foundation

“The case for the elimination of vitamin and mineral deficiency is compelling beyond description. The return on investment is without equal.”

Rolf Carriere, Executive Director, Global Alliance for Improved Nutrition

“Vitamin and mineral deficiencies deprive 1 billion people world-wide of their intellect, strength and vitality.”

The World Bank

“The road to regional health and life-long productivity cannot be passed without removing the obstacle of vitamin and mineral deficiency.”

Joseph Hunt, Health and Nutrition Adviser, Asian Development Bank

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VITAMIN & MINERAL DEFICIENCY WHAT DOES IT MEAN?

- **It means** vitamin and mineral deficiency – the lack of tiny amounts of key vitamins and minerals in the diets of a third of the world’s people.
- **It means** the impairment of hundreds of millions of growing minds and the lowering of national IQs.
- **It means** wholesale damage to immune systems and the deaths of more than a million children a year.
- **It means** the deaths of approximately 50,000 women a year in pregnancy and childbirth.
- **It means** the birth of 250,000 babies a year with serious birth defects
- **It means** the large-scale loss of national energies, intellects, productivity, and growth.

VM deficiency was controlled decades ago in the industrialised nations.

It could now be controlled world-wide by means that are tried and tested, available and affordable.

That is why the World Bank says *“The control of vitamin and mineral deficiencies is one of the most extraordinary development-related scientific advances of recent years. Probably no other technology available today offers as large an opportunity to improve lives and accelerate development at such low cost and in such a short time”*

Some nations are acting on this opportunity.

Others are still thinking about it.

INVESTIGATING VM DEFICIENCY – A CHALLENGE TO MEDIA PROFESSIONALS

“VM deficiency thrives on ignorance and indifference. But it quickly retreats in the face of knowledge and action. The media is therefore central to this struggle. But VM deficiency will not go away as a result of one leading article or one item on the nightly news. It will only retreat when the media consistently returns to the issue, asking what progress is being made, reporting successes and failures, and drawing attention to obvious opportunities being missed.”

Venkatesh Mannar, President, the Micronutrient Initiative

VM DEFICIENCY – THE FACTS

The true significance of vitamin and mineral deficiency (VM deficiency) is only just being revealed.

For decades it has been known that lack of essential vitamins and minerals brings anaemia, cretinism, blindness, and goitre to millions of people. But recent research has shown that this is only the tip of a very large iceberg. It is now known, for example, that even moderate levels of deficiency, with no visible symptoms, can impair mental development, compromise immune systems, increase child deaths by as much as 30%, cause serious birth defects, and leave adults living well below their physical and mental potential.

At the same time it has also become clear that this kind of moderate VM deficiency is so widespread, affecting perhaps a third of the world's people, that it damages the energies, intellects, and economic prospects of nations.

In Europe, and North America, VM deficiency has been largely overcome by three low-cost methods. Those same methods could now be used to control the problem world-wide. They are:-

FORTIFICATION

Adding essential vitamins and minerals to processed foods that are consumed by the majority - such as flour, sugar, margarine and cooking oil. The cost of fortification can be as little as a few cents per person per year.

Fortification is a powerful but not total solution. It can only provide a part of the recommended daily intake of vitamins and minerals. And foods suitable for fortification are not always consumed by the entire population.

SUPPLEMENTATION

Immediate action can be taken against VM deficiency by reaching out to vulnerable groups, particularly children and young women, with vitamin and mineral supplements in the form of tablets, capsules, and syrups.

With a reliable delivery system, the cost of supplementation is small. But sustaining supplementation programmes that reach the very poorest has often proved difficult.

EDUCATION

Small changes in diet and eating habits can help people to protect themselves and their children against VM deficiency. But better diets often require better incomes. And promoting healthier eating is not easy - even in rich nations with their advanced communications capacities.

ACTION

The growing realisation of the scale and severity of the problem, plus the availability of inexpensive solutions, has prompted many developing nations to move against VM deficiency.

SOME EXAMPLES

- Programmes in over 100 countries have added iodine to about two-thirds of the developing world's salt. Over 70 million new-borns are now being protected every year against mental impairment.
- A total of 43 nations are managing to get at least one high-dose Vitamin A capsule to 70% or more of their children. These nations are now saving the lives of approximately 300,000 children each year and preventing tens of thousands of cases of irreversible blindness.
- One or two developing nations are beginning to reduce anaemia by fortifying flour with iron (as in North America). But in most developing countries there has been little change in anaemia levels for thirty years and half the population remains iron deficient.
- Other foods are also being fortified around the world. For example, vitamin A is being added to sugar in much of Central America, to margarine in the Philippines, to maize in Zimbabwe, to chocolate powder in Mexico, to cooking oil in India and Pakistan. Vitamins and minerals are also being added to instant noodles in Thailand, fish sauce in Vietnam, soy sauce in China, biscuits and milk powder in Chile.

Deploying all of the available solutions together can defeat VM deficiency in a relatively short time and at a relatively low cost.

So for once the world is confronted by a major health problem for which there is a readily available solution. Recent successes have shown that rapid, large scale advances are possible when governments become aware of the problem, when the media is vigilant in reporting it, when the food companies realises the contribution they could make, and when public and private sectors co-operate to do something about it.

10 TESTS

How can the media assess how well the nation is dealing with the VM deficiency problem?

The following '10 Tests' suggest some of the key questions to be answered.

1. KNOWLEDGE:

Does leadership know about VM deficiency?

Lack of awareness of the VM deficiency problem is the main obstacle to its solution.

The accompanying national Damage Assessment Report summarises what is currently known about the impact of VM deficiency. Are national political leaders aware of the damage being caused? And what about leading figures in health and education, commerce and industry? Do society's leaders know how many of the nation's children are growing up below their mental and physical potential? Or what percentage of adults have lowered health and productivity?

2. TARGETS:

Has government signed up to UN goals?

In 2002 the General Assembly of the UN set targets for reducing VM deficiency. Those targets are:

- an end to iodine deficiency by 2005
- an end to Vitamin A deficiency by 2010
- a population-wide reduction of anaemia, including iron deficiency, by 2010.

Are these goals being taken seriously? Is there a national plan and a time-scale and a budget for achieving them?

3. PROGRESS:

What gains have been made?

It should be possible to assess recent progress by comparing vitamin and mineral deficiency statistics for 1990 and 2000.

Data should be available for:

- the % of households consuming iodised salt
- the % of children under-five receiving Vitamin A supplements
- the % of women of child-bearing age who are receiving iron supplements
- whether or not flour is fortified with iron and folic acid

4. ALLIANCES:

Is there a national movement?

Experience has shown that progress against VM deficiency usually depends not only on government but on an energetic alliance of all those who are in a position to help solve the problem - governments, food companies, health and nutrition professionals, researchers, and consumer organisations.

Above all, defeating VM deficiency requires champions and advocates - including media professionals - who will make the facts known, argue the case for action, ask the key questions, and keep up the pressure for low-cost solutions to be applied nation-wide.

5. SALT LAWS:

Is iodisation the law?

Many countries have laws stipulating that salt must be iodised. But there are still questions to be asked.

Are such laws monitored and enforced for all salt producers, large and small? Is the quality of salt reaching homes and markets regularly tested? Are there penalties for non-compliance?

In practice, how much of the nation's salt is iodised? Is non-iodised salt available? Are the poor using it because it's cheaper? (In most countries, the richest 20% of people are twice as likely to be using iodised salt as the poorest 20%).

6. FORTIFIED FOODS:

Are vitamins and minerals added?

What staple foods are consumed by a large proportion of the population, and particularly by the poor?

Are those foods suitable for fortification with vitamins and minerals?

Is the government considering fortification?

And are the producers of flour, sugar, margarine, cooking oils, condiments and sauces aware of the contribution they could be making to national well-being?

National fact-finding can be supplemented from international publications such as UNICEF's annual State of the World's Children report, and from the Micronutrient Initiative web-site (www.micronutrient.org) which acts as a gateway to many other sources of information on VM deficiency.

7. SUPPLEMENTS:

Are they reaching those at risk?

What proportion of children die before reaching the age of five? If it is more than 70 out of every 1,000 births, then all young children need vitamin A supplements to protect against disease and early death.

Are iron supplements being given to pregnant women to help ensure a healthy pregnancy and birth? And are they being given to young children to protect their developing minds? Is the supply of supplements reliable? And are the poorest being reached?

8. EDUCATION:

Is the public aware?

Giving out health information does not automatically lead to changes in eating habits. And the poor may in any case not be able to afford diets that supply enough vitamins and minerals. But this does not mean that poor people should be denied the kind of information which could enable them to protect their own health and their children's mental and physical well-being. Information on vitamins and minerals, sustained over time and coming from a variety of respected sources, is as much part of the solution to the VM deficiency problem as fortifying staples or distributing supplements.

9. MONITORING:

Is VM deficiency being checked?

Regular monitoring of vitamin and mineral deficiency is itself a sign of whether the nation is taking the issue seriously.

All governments should have information on levels of vitamin and mineral deficiency and changes over time – particularly in vulnerable groups such as young children and women of childbearing age.

If data for past years is not available, are the mechanisms now in place to monitor VM deficiency in the future?

10. ACTION PLAN:

What would it take to defeat the problem?

The role of the media is critical – in provoking discussion and in monitoring policy and progress. Where no national or large-scale plan is in place, media professionals can take the initiative in campaigning for the action needed.

By asking the right questions of the right people, and drawing on expertise from the offices of international agencies like UNICEF, it should also be possible to suggest a feasible time-scale, estimate the cost, and publicise the benefits.

SALT SUCCESS

It has been called one of the greatest public health success stories of the twentieth century. In 10 years, approximately two-thirds of all household salt in the developing world has been fortified with iodine. Every year, approximately 70 million new-borns are being protected against the mental impairment caused by iodine deficiency.

Salt iodisation programmes are now established in over 100 countries. More than 40 nations have iodised 50% or more of household salt. Of those, 28 have now passed the 70% mark.

This achievement, in the words of UNICEF Executive Director Carol Bellamy *“shows that the diets of children, women, and families world-wide can be changed in small but very beneficial ways in just a few years as a result of concerted global, national and local action”*.

The task now is to deepen this achievement to reach populations as yet untouched, and to widen it to include the fortification of other staples with other essential vitamins and minerals such as iron, vitamin A, zinc and folic acid.

RUN OF THE MILL

For decades iron has been added to all flour in Canada and the United States. Several nations in Latin America – as well as Indonesia, Jordan, Nigeria and South Africa – have also begun fortifying flour with iron. Some countries, including Canada, the USA, Cuba and Chile, are also adding folic acid to flour in order to help prevent serious birth defects.

Fortifying flour can only provide a proportion of the extra vitamins and minerals needed. But it's an inexpensive and powerful weapon in the struggle against VM deficiency.

Organisations like UNICEF and MI have long pressed the case for the fortification of flour world-wide. *“During this decade,”* says Glen Maberly, Professor of International Health at Emory University and co-ordinator of the international Flour Fortification Initiative, *“we would like to see the benefits of flour fortification extended to most places in the world where flour is milled on a large scale. The costs are small, the risks negligible, the potential benefit to mankind enormous.”*

WHAT'S GOOD FOR THE RICH...

For decades the world's wealthiest nations have been fortifying common foods as a way of delivering essential vitamins and minerals to their populations:

IODINE

It is more than 80 years now since Switzerland and the United States became the first countries to add iodine to common household salt in order to prevent the condition known as goitre.

In the United States, the alarm was first raised in Michigan in 1918 when over 30% of men medically examined for war service were found to have an enlarged thyroid. Many were declared unfit for service. In 1924, the US company Morton Salt began marketing iodised table salt nation-wide under the headline 'Children protected against simple goiter are found to be superior in development'.

Meanwhile, Europe was also moving towards salt iodisation - swiftly controlling goitre, cretinism, and the milder forms of iodine deficiency.

IRON

In 1938, President Roosevelt signed into law a requirement that all corn, wheat and rice products (including breakfast cereals) should be fortified with iron, thiamine, riboflavin, and niacin. Today, the fortification of flour provides the population of the United States and Canada with about a quarter of its daily iron intake.

FOLIC ACID

More recently, the addition of folic acid to flour in the USA, Canada, and several Latin American nations, has begun to reduce serious birth defects like spina bifida. Research is also indicating that fortifying flour with folic acid may significantly reduce heart disease and strokes in adults.

VITAMIN A

Vitamins began to be added to foods in Europe and North America almost a century ago. Rickets and other health problems were eliminated by fortifying products like milk and margarine with vitamins A and D. About 25% to 50% of additional Vitamin A in the diet of the average European now comes from fortified food products



70% of developing world's salt now iodised - but unreachd 30% in most need.

“Lack of knowledge about VM deficiency is the enemy – in government, in industry, in the health profession, and among the public at large.”

VM deficiency: A Global Progress Report, The Micronutrient Initiative, Ottawa

**FOR FURTHER INFORMATION:
www.micronutrient.org**

VITAMIN & MINERAL DEFICIENCY A WAKE UP CALL

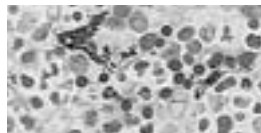
Vitamin and mineral deficiencies affect a third of the world's people – debilitating minds, bodies, energies, and the economic prospects of nations.



Iodine and iron in salt



Retinol (vitamin A)



Iron in blood

IODINE DEFICIENCY – THE MAJOR CAUSE OF INTELLECTUAL DEFICIENCY ON THE PLANET

Until recently iodine deficiency was known as goitre and thought to affect only a minority. Today we know the truth. More than 60 developing countries have iodine deficiency rates that are associated with a 10% to 15% lowering of average intellectual capacity.

VITAMIN A DEFICIENCY – RESPONSIBLE FOR A MILLION CHILD DEATHS A YEAR

Until recently, lack of vitamin A was seen as a nutritional problem causing blindness in severe cases. Now it is recognised as one of the most common and devastating of all health problems – compromising immune systems, opening the doors to disease, and leading approximately a million children a year to their deaths.

IRON DEFICIENCY – THE MOST WIDESPREAD HEALTH PROBLEM IN THE MODERN WORLD

Until the 1990s, iron deficiency was seen as little more than a debilitating nuisance. Now, lack of iron is known to impair the normal mental development of 40% to 60% of the developing world's infants. Iron deficiency also debilitates the health and energies of an estimated 500 million women, and leads to more than 60,000 childbirth deaths a year.

LOW-COST SOLUTIONS

The VM deficiency problem has largely been brought under control in the industrialised nations. It could now be controlled world-wide by essentially the same low-cost strategies – adding vitamins and minerals to staple foods, getting tablets and capsules or syrups to vulnerable groups, and educating the public about small changes to daily diets.

For once the world is confronted by a major problem which could be brought under control in a relatively short time and at a relatively low cost.

WHICH COUNTRIES ARE PREPARED TO DEPLOY BIOLOGICAL WEAPONS OF MASS PROTECTION?