A Danish professor argues in the journal Science that fighting infections in developing countries also means we can overcome problems with obesity and diabetes in the third world.

Not so long ago we heard only about problems such as tuberculosis, famine and malaria in developing countries, while obesity, cardio-vascular diseases and diabetes were only found in the rich West.

Now, however, that picture is no longer so clear – according to an increasing number of reports, more people die of chronic diseases in developing countries than of infectious diseases. The UN General Assembly has therefore unanimously decided to fight this new disease burden in the third world.

But in the scientific journal Science, a Danish professor warns strongly against forgetting the ‘old’ health problems in developing countries in the fight against the new diseases. He says famine and infections are closely connected in the third world with the new problems of obesity, cancer and diabetes.

“We must make sure we don’t throw the baby out with the bathwater by focusing solely on lifestyle diseases and chronic diseases,” says Ib Bygbjerg, a professor at the Department of International Health, Immunology and Microbiology at the University of Copenhagen.

Famine can be to blame for obesity

To avoid the one problem, we need to deal with the other.

Bygbjerg mentions the obesity epidemic in developing countries as an example. Research shows that overweight can be caused by something other than too much food and too little exercise – the often-named causes in the West.

“If, for instance, you are under the norm weight in your mother’s womb, you’re more likely to be overweight as an adult,” says Bygbjerg. “And if you have low weight at birth, you are more susceptible to developing diabetes and blood clots.”

Western health systems don’t work in the third world

Since the start of the 1970s, people working in the field of international health have tried to classify the health challenges facing developing countries according to the development stage of each of these countries.

In other words, the health systems in lesser developed countries should be designed to fight infections and the consequences of under-nourishment, while the rich Western countries would benefit most by specialising in fighting chronic diseases and lifestyle diseases.

However, the professor does not believe that poor countries should simply change their health system to one that resembles a Western system just because the poor countries have grown richer.
Professor wants a dual attack

In his Science article, Bygbjerg lists a number of examples where it is meaningful to have health strategies that focus on links between different forms of disease, including:

- Malaria and low weight in mothers result in low weight at birth. A baby born into an environment with famine compensates by developing e.g. insulin resistance. This reaction at the foetal stage means that the child has a greater risk of developing cardio-vascular diseases, obesity and type 2 diabetes later in life without the child being particularly overweight or physically inactive.
- Tuberculosis is linked to diabetes. If you are diabetic, you have a risk of developing tuberculosis that is three times as high as the risk other people have. Research also shows that there can be a greater risk of developing diabetes if you have tuberculosis. At the same time, experience indicates that cases of tuberculosis rise by 400 percent in areas hit by a human immunodeficiency virus (HIV) epidemic.
- A virus can give cancer. Certain forms of cancer arise because of a virus. The human papilloma virus (HPV virus), for instance, is known to cause uterine cancer.

“We believe that we can prevent all sorts of diseases and fight this double health burden in developing countries by moralising on the need for a healthier lifestyle, as we do in the West,” says Bygbjerg. “But fighting infections as well as under- and over-nourishment in developing countries at the same time will be much more beneficial than treating each situation individually.”

In his article in *Science*, ‘Double Burden of Noncommunicable and Infectious Diseases in Developing Countries’, Bygbjerg calls for a more nuanced and more intelligent strategy for health in the third world.

Read the Danish version of this article at videnskab.dk

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The obesity epidemic in developing countries is not necessarily caused by lack of exercise and a fat-rich diet. Research shows that if a foetus gets too little nourishment in the mother’s womb, its body can be programmed to live in an environment with famine, which means it will have a greater tendency to become overweight in a society where there is sufficient food. (Photo: Steve Crane).

Fighting infections as well as under- and over-nourishment in developing countries at the same time will be much more beneficial than treating each situation individually.

Ib Bygbjerg

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?Double Burden of Noncommunicable and Infectious Diseases in Developing Countries?, Science 21 September 2012: Vol. 337 no. 6101 pp. 1499-1501 DOI: 10.1126/science.1223466

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September 29, 2012 - 06:52
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