

ACTA COMMENTARY

Climate and health

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A minority of the Scandinavian public, even fewer of the health professionals, and almost none of the climate experts, are in doubt that we are experiencing a global warming, that this warming is due to greenhouse gases, that the emission of these is human made, and that it is our combustion of fossil fuels that causes the increased atmospheric concentration of these gases.

Fewer are aware of the long lag-time from the time of our emissions, - over the increase in temperature -, to the final climate consequences of more unstable weather, spreading droughts, melting glaciers and increasing sea level.

In the northern part of the world, we have so far primarily felt the climate changes in higher temperatures. But the retreat of glaciers, the increasing ice-free arctic areas and the greener vegetation are also quite evident. Perhaps due to these relatively harmless changes, many have difficulty in understanding and accepting how profound an influence climate changes will bring through the coming decades. And how dramatic changes in our life style we have to accomplish, if the development does not pass important tipping points, beyond which we may lose control over the climate. Thawing of the permafrost tundra in arctic Canada, Greenland, Norway, Sweden, Finland and Siberia will release huge amounts of methane and CO₂, further accelerating the global warming. The inertia in these changes could easily be mistaken for stability. The world geological history proves that although climate changes are slow processes in a human time scale, the climate system is indeed very sensitive to even small changes in the physical conditions.

Last time the amount of greenhouse gases was at the present level, and we had equilibrium between CO₂, temperature and sea level, was during the Pliocene epoch 3¹/₂ million years ago. At that time the global mean temperature was about three degrees

higher than today, and the sea level was 25 m above present level, - just an outlook on to what we should expect if the present level of greenhouse gases remains unchanged (1). Not by tomorrow, not in 2050, but within some hundreds of years from now.

Before these end-point scenarios become true, the world population will have experienced devastating changes in their life conditions, with lack of fresh water for billions, floods in some areas and droughts in others, a higher frequency of cyclones, disruption of infrastructure, climate refugees, and local and regional conflicts as one consequence of these changes, - all things we will see in this century, although less dramatic if we act appropriately and in a determined way now. The health consequences of such changes are not difficult to imagine. The poorest societies in Africa and Southern Asia will suffer first and most, the same populations which have contributed least to the present greenhouse gas level.

In principle, two strategies exist for averting these climate threats. The first is mitigating further aggravation of the changes by cutting out 80-90% of our emissions in the industrialised world before the year 2050 in order to reach the United Nations goal of an average emission of 1-2 tonnes of CO₂ per capita per year. Our present emission in Scandinavia is now about 15 tonnes, in the USA 24 tonnes, in China 5 tonnes, in India 2 tonnes and in Africa 1¹/₂ a tonne per capita per year, just to get an impression of the huge global differences.

The other is to adapt to the changes already present, and to those to come. These two strategies are of course complementary, due to the fact that many of the mentioned changes are already inevitable by now.

While the cut-down of greenhouse gas emission in one country in the first instance is to the advantage of all other countries, local adaptation, such as by reinforcing dikes, primarily helps the very country making this effort. The global consequences of focusing on

adaptation are that we all have to sacrifice and pay much more than we would do if we collectively reduced our emission of greenhouse gases. The COP15 summit in Copenhagen this month is an attempt to reach a global agreement on a dramatic cut-down in greenhouse gas emissions over the coming decades.

From a health perspective, mitigation of climate changes has two obvious advantages. The first is that we thereby prevent global deaths and morbidity, and thus save expensive adaptive efforts to comply with these disasters (2). But secondly, we should not forget that many of the attempts to mitigate climate changes at the same time will improve our public health situation. Examples are a shift from individual car transportation in urban areas to collective transportation and bicycling, which at the same time will reduce our emission of CO₂ and diminish the particle pollution, thereby reducing airway diseases in the cities, and finally improving physical activity reducing adiposity, ischemic heart diseases and several types of cancer. Another example is the preservation of the Himalayan glaciers, securing fresh water in the coming decades for about 1.3 billion people in South-East Asia, with huge agricultural and health implications for the region.

This is called the preventive win-win scenario. Some people still argue that adaptation to what they consider are inevitable climate changes is cheaper than mitigation efforts. This imagination is due to both an underestimation of the costs of climate change, and the benefits of preventing them. Lord Stern has for example calculated that we could prevent serious climate changes by using 2% of the global gross domestic product from now until year 2050, and that this cost is a small fraction of the expenses if the global warming continuous and we would have to adapt to its consequences (3).

As health professionals we all have a responsibility to spread the scientific insight we have, and to explain that climate change is not one, but the most important global health threat in this century, and that only a determined collective action from the world's societies could prevent major future health disasters (2,4).

As gynecologists we could emphasize the importance of global access to birth control and free access to elective abortion as two important instruments to reduce the growth rate in the global population, but also that some degree of equalizing the cleft between developed and developing countries is necessary in order to achieve a responsible concerted global action in the years to come. If we - as one medical community - could go a little ahead of others in adjusting our personal lifestyles towards a greener practice, we could make a personal contribution in addition to our professional duties.

The sooner we realise these challenges and make personal changes in our lifestyle, the easier will the transition phase be, which we under all circumstances have to go through with the expenditure of fossil fuels. Let's move forward, and let the Nordic gynecologists be in front of this movement. An initiative from AOGS to establish a home page, where good ideas, information, and spreading of climate initiatives among the members of NFOG could be voiced, might be one good idea of concrete action. We are just in the beginning of a new recognition, that the quality of our lives is not primarily a question of increasing consumption of fossil fuels and a high turnover of durables.

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