

HOW DO WE FIGHT WIDESPREAD DISEASES?



Widespread diseases plague millions and cost billions. Cardiovascular diseases, mental disorders, diseases of the digestive system and the teeth, musculoskeletal diseases and cancer are some of the most widespread maladies that cost the economy the most. Can the spread of the ailments be slowed? What role do preventive care and social circumstances play? How can treatments be improved? And what can be learned from internationally successful prevention projects? Five experts give their answers.

We must not surrender to fate when we have cardiovascular diseases, diabetes or obesity says Alexander Schachtrupp, Senior Vice President Medical Scientific Affairs at B. Braun. Modern technology could also help to determine the individual disease risks even better and to lower them.

Medicine can nowadays treat many widespread diseases effectively. Although the number of chronically ill patients is increasing, our society is simultaneously aging after all. This shows that many therapies work well, otherwise life expectancy would not keep increasing. Obviously, sick people are for the most part treated well and can therefore live longer on average. Thus, we are medically successful – yet we endanger ourselves because widespread diseases like cardiovascular ailments and diabetes are not inevitable. They are the result of personal lifestyle and risks can be minimized when dealing consciously with them. Moreover, these risks are relatively clearly recognizable. A lot has obviously to do with what we eat and how much we move. Thus, for example, overeating increases blood pressure and therefore the risk for cardiovascular disorders. In addition, smoking promotes such ailments as well as cancer. This has been known for a long time. We know how we should behave to live healthier – and yet we do it apparently only partially. Thus, on the one hand, the number of smokers has been decreasing in Germany for years, but the share of overweight people is increasing. Currently, about two-thirds of men and one half of women are considered too obese in Germany. The question is how society can support the individual to change an unhealthy behavior. Thus, it is obvious, for example, to make certain damaging foods and stimulants like alcohol and tobacco less available, while making health foods more easily available. This approach has worked with cigarettes and so-called alcopops: After they were taxed much more, young people used them a lot less. Therefore, one should think about how the population at large can be supported to do the right thing not only with such obstacles but also with indications and prohibitions. In the future, both prevention and the treatment of widespread diseases could take a giant leap forward – if we succeed in evaluating important data about a person's body and behavior and meaningfully link them together. Today, it is already possible to gather a lot of information by analyzing genes and metabolism as well as by recording activities like sleeping and exercising. If we succeed in interpreting these data correctly in the context, a customized risk profile can be drawn up for each person and the response rate to certain therapies can even be recorded. With the help of this precision medicine, it would even be possible to stop designing therapies and medications for entire groups as is done nowadays, but to customize them for the individual case.



How well we can protect ourselves against widespread diseases depends in particular on what we eat and drink – and Anthony Fardet is also convinced of this. The French nutritionist is investigating the relationship between eating and drinking habits and widespread diseases such as diabetes, heart disease and cancer. For everyday life, he has laid down three easy rules for a healthy diet.



Dr. Anthony Fardet is Senior Research Scientist in Preventive and Holistic Diets. He lives in Auvergne. "The main cause of chronic diseases is an unbalanced diet, and in our western culture, two main factors play a decisive role: Too many calories from animal origin and from highly processed foods. Highly processed means that the starting ingredients are not just simply cooked and combined with the common additions like spices or butter, for example. Instead, manufacturers first take them apart to their smallest parts and then reassemble them – typically with prepared cosmetic added substances and ingredients like colorings, sweeteners or flavor

enhancers. Highly processed foods like breakfast cereals for children, certain sweets, flavored yoghurt products and ready-made meals usually contain a lot of sugar, salt and fat – all of these are substances with addictive potential. At the same time, due to their often soft, viscous structure, they satiate less than real, natural foods that we must chew longer. For this reason, there is a big risk that we eat too many of them and therefore ingest significantly more calories than we really need. They are especially empty calories that receive that name because we mainly absorb energy from them, but hardly any vital nutrients like antioxidants, minerals, vitamins and fiber. Since 2009, more than 100 studies have investigated the relationship of highly processed foods and health. All of them point in the same direction: Regular consumption of these products is related to a higher risk of disease, including obesity, high blood pressure, irritable bowel syndrome and various forms of cancer. Three golden rules help us to eat healthier and lower the probability to suffer from these ailments. They can be summarized with three keywords: plant-based, real, and varied. Rule no. 1: No more than 15 percent of your daily calories should come from animal sources. This means not just meat, but also fish, dairy products and eggs. Rule no. 2: No more than 15 percent of your daily calories should come from highly processed foods. Rule no. 3: Have a varied diet, and eat above all real, natural foods, primarily from plant-based ingredients. Whenever possible, the food should be locally grown, seasonal and organic. These rules are based on a holistic approach. If you follow them, you not only benefit your own health, but also the environment and the animals."

It's up to us to decide whether and how healthy to behave. Yet in all of this we are influenced by factors strongly related to our social background. Social epidemiologist Andreas Mielck deals with the resulting consequences.



Dr. Andreas Mielck is a social epidemiologist who works at the Institute for Health Economics and Management in the health care division of the Munich Helmholtz Center. "The dissemination of widespread diseases depends to a great extent on injustice. People are born into different social classes with certain incomes and educational levels which they cannot influence. Statistics show that widespread diseases like overweight and hypertension are much more prevalent in the lower income groups and those belonging to them die significantly earlier. When people fall ill earlier because they belong to a certain class or come from it, this is unfair. Naturally, cardiovascular diseases or type 2 diabetes have a lot to do with personal habits, such as with nutri-

tion, smoking or exercising. One would be tempted to say: I can decide on my own about what I should eat, whether I should smoke and how much I move, I am therefore solely responsible for it. Yet it's not as simple as that – because such behavior is often practiced in the surroundings, for example, in the family, in the circle of friends or colleagues. Today, only self-responsibility is very often stressed. For this reason, in return, we point out to the limits of one's own abilities to change personal habits. If society wants to achieve a healthier lifestyle for low-income groups, it should consider this. We are currently stuck in a prevention dilemma: Most political and health insurance campaigns hardly reach those that need them the most, but especially those that are on the verge of having healthier habits anyway. The dilemma can only be overcome by including, from the outset, those who should be reached in the planning stage. We are talking of participation here. If we want to strengthen the resources that these people have so they can help themselves, we must go to them and start by asking questions: What are the reasons for your habits? How could you change them? Do you really want to? How could we help you? Surely it is easier and cheaper to launch a big information campaign to quit smoking than to go to those being addressed and engage with them. Yet we will only be able to reach something when we start at the basis. Even if injustices from social differences are the result, it's not about

that all should earn the same. But we should try to support the lower social classes in such a way that they do not suffer health problems – and if possible, as early as when they are born. Inequality itself is no scandal, yet when the resulting health consequences become too great, it becomes unfair. And then the scandal starts."

That prevention on an equal footing can be successful has been proven by the Finnish physician Pekka Puska. In the 1970s, he developed a health project for the North Karelia region with his colleagues that caused a worldwide sensation. Since then, the cardiac death rate has dropped dramatically.

Prof. Dr. Pekka Puska is epidemiologist and was most recently General Director of the Finnish National Institute for Public Health." When we started our project in North Karelia in 1972, Finland held a sad record: The world's highest death rate caused by heart disease in relative terms. It was the main cause of death for middle-aged men. The public at large exerted pressure and demanded: Do something! Back then, we still didn't know so much about the risk factors for such diseases as today. Yet it was already clear to us that too much cholesterol in the blood and very high blood pressure played a decisive role, which were in turn closely linked to personal habits like diet, smoking and too little movement. We recognized that prevention was the key for solving this problem, but how could we motivate people to have healthier habits? Naturally, we first elucidated the causes of the diseases that led to cardiac death. Yet it's not enough to inform and say from above: Have a healthier diet, move and quit smoking! So we gave them additional practical tips on how to possibly achieve it in the best way. However, if you want to change the lifestyle of an entire region, you must change the basic conditions. Therefore, we anchored our project deep into the community and tried to include as many players as possible. We spoke not only with the inhabitants of North Karelia and with physicians and caregivers, but also with businessmen, non-governmental organizations and journalists. We wanted to use the widest possible approach to make it clear to the individual: This is your project. When it initially ended after five years, we saw the first positive trends: Fewer smokers, changed dietary habits, and the number of heart patients began to fall. Therefore, we continued the program and expanded the campaign to all of Finland. The next step was to make it easier for people to have a healthier lifestyle. New laws kept expanding non-smoking areas. We collaborated with industry to stimulate the production of foods containing less saturated fatty acids and salt. There was a lot of resistance at first, but when manufacturers realized that demand for healthier products was rising, they recognized the potential business. Within approximately 30 years, mortality caused by heart disease fell by about 80 percent among middle-aged men. Meanwhile, the life expectancy of newborns has risen by approximately ten years. Many things point out to the fact that fewer people fall ill to those ailments because the risk factors in the population are far less pronounced. Thus, when the project began, more than half of the men were smokers, nowadays 15 percent. When Finns are asked on the street, they answer that the North Karelia project was a model. I think that we pointed the path to change, but we did not bring it about: Finnish society did it. In view of the world's high cardiac death rates, it seems reasonable to believe that our program can be copied in other countries and regions. However, it couldn't be copied exactly in Hamburg or Beijing, as conditions are too different. Nonetheless, the basic concept of the community-based project is transferrable and the World Health Organization has been applying it for years."



Together instead of from above – according to the point of view of psychologist Pola Hahlweg, this principle could also help advance cancer therapy because decisions are made jointly by the physician and patient.

Psychologist Pola Hahlweg is deputy director of the research group "Patient-Centered Care: Evaluation and Implementation" at the Institute and Polyclinic for Medical Psychology of the University of Hamburg Medical Center at Eppendorf (UKE Hamburg). In addition, she works in therapy as psycho-oncologist.

"Decisions play an essential role in cancer therapy. The treatment that is selected has often far-reaching consequences for the patient's subsequent life. Most of the time, patients are initially in an exceptional situation, in which the rug is pulled



out from under their feet. Uncertainty is often great in this case, and it is difficult to make a good decision when there are several therapy alternatives available and none clearly stands out as the best. This moment is usually when physicians decide the further approach – but it is not necessarily the best one. Treating physicians frequently approach this issue with a completely different viewpoint. Making such decisions is routine for them. Moreover, they look at the situation more rationally than patients and have the medical expertise. But they lack the individual life experience of this special person. They can't know what priorities play a role for this person in selecting the therapy. Thus, it's possible that safety is especially important for one patient and she is therefore willing to accept the side effects – whereas another one prefers a gentler treatment, even if he does not take advantage of every opportunity to lengthen his life. This shows that it plays a big role what values,

hopes and fears patients bring with them. Here, medical expertise is not enough for a good decision that fits the individual case. For this reason, such decisions should be made jointly by patients and treating physicians. Studies have demonstrated that there are many advantages when patients are included in decision-making. Then they know more and become more confident; their expectations on therapy are more realistic and they trust the medical staff more. Physicians, in turn, report to be more satisfied after exchanging views with patients and their treatment. In addition, they consider more treatment options. So far, it is still unclear whether adherence to therapy increases, but it seems natural. There are many sympathetic physicians for whom joint decision-making is important, but thus far they often do not implement it on a daily basis. Some of the reasons mentioned are a lack of support from the management level and a lack of time. Therefore, treatment is frequently selected directly in the diagnostic consultation instead of calmly weighing the options together on another date. In doing so, physicians report having the impression to save time in the long term if they talk extensively with patients early and explaining them the situation and possible actions. Also, initial studies from the U.S. show that better informed patients are less likely to allow elective, not absolutely necessary interventions, thereby being able to lower treatment costs. Thus, it's not about the classical results of a therapy like mortality and morbidity, but also about quality of life and satisfaction. If this becomes a matter of course, it would make a big difference in the treatment of cancer patients."