PRESS RELEASE

Health Economical Impacts of Nutrition-Related Diseases

University of Halle-Wittenberg and BRAIN AG published a joint study on potential savings in the German healthcare system

Zwingenberg and Halle (Saale), 15 September 2015 - In a joint scientific study, BRAIN AG, the biotechnology company, and Martin Luther University of Halle-Wittenberg have shown that annual costs of Euro 16.8bn could be saved in the German healthcare system alone if the consumption of sugar, salt and fats did not exceed official recommendations. The study was conducted within the NatLife 2020 strategic alliance programme and was partly funded by the German Federal Ministry of Education and Research (BMBF).

The NatLife 2020 strategic alliance programme seeks to identify and develop new and biologically active natural substances to help food manufacturers to improve their formulations. The resultant new products will come with the same delicious taste but will be reduced in their salt, sugar and/or fat content. This way they may notably contribute to improving consumers' nutrition, health and wellbeing.

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At the outset of the project, the researchers at BRAIN and the University of Halle-Wittenberg raised the question of whether improved food formulations could at the same time help reduce healthcare costs in Germany, if the population's actual intake of substances which pose a health risk such as sugar, salt and fat would be in accordance to the official dietary recommendations by the German Nutrition Society (DGE).

Based on representative health costs and intake data, the team of researchers calculated the price of an unbalanced dietary intake of sugar, salt and saturated fats, the three groups of substances Germans often have an unrestrained appetite for and thus clearly exceed official daily allowance recommendations. The team investigated relevant diseases and finally put together a list of 22 clinical endpoints. According to this research, the highest healthcare costs are caused by cardiovascular diseases (Euro 7.7bn), dental decay (Euro 3.6bn), metabolic disorders such as diabetes and obesity (Euro 2.1bn) as well as various types of cancer (Euro 1.1bn). All-in-all, healthcare costs caused by making the wrong food choices added up to Euro 16.8bn.

"The cost directly associated with nutrition-related diseases due to the excessive intake of salt, sugar and fat is substantial. However, the potential savings are even higher if secondary diseases triggered by obesity and diabetes, such as weight-related arthrosis, sleep disorders, Alzheimer's disease and chronic kidney disease, which so far have received little attention, are also factored in," says Dr Toni Meier, University of Halle-Wittenberg, the author of the study. Against the backdrop of an increasingly ageing, but not healthier population, and the concomitant higher health care spending, the results of the study may provide an indication of where prophylactic measures might be most effective and worthwhile.

Dr Katja Riedel, BRAIN's leading scientist for natural substances to improve food formulations and co-author of the publication explains: "We were absolutely surprised by the actual level of costs. Even more so, because in our current study we only considered direct treatment costs. Indirect costs caused by the loss of working hours, medical rehabilitation or incapacity to work need to be added to the direct costs."

"The results of the study are encouraging as they show that we are on the right track with the NatLife 2020 research approach. If we manage to replace roughly one third of the sugar, salt or fat used in food formulations by new natural substances, five to six billion Euro could be saved in the German health care system year after year. If the formulations were also used in other EU countries and the U.S., potential savings would be considerably higher," sums up co-author Dr Martin Langer, Executive Vice President Corporate Development at BRAIN.

The interdisciplinary team of scientists published their research results in the PLOS ONE journal on 9 September 2015. The article can be downloaded free of charge at:

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0135990

The successful co-operation between BRAIN AG and the University of Halle-Wittenberg in the NatLife 2020 programme, which led to the newly published results, already continues. The partners' long-term objective is to determine the health economic burden of unbalanced nutrition between 2010 and 2013 and, based on the outcome, to create various reduction scenarios.

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About BRAIN:

BRAIN AG is an industrial “white” biotech company which discovers and develops novel bioactive natural compounds and proprietary enzymes for its partners and customers in the chemical and pharmaceutical industries, as well as the food and cosmetics industries. With its unique approach to the discovery and production of new biological compounds and biocatalysts, the company achieves creative solutions by harnessing nature’s untapped biodiversity. Its success is built on its proprietary BioArchive comprising millions of genes, proteins and metabolic pathways from microbial isolates and metagenome libraries. Since its foundation in 1993, BRAIN has entered into over 100 strategic collaborations with nearly all the relevant companies within the chemical industry as e.g. BASF, Ciba, Clariant, Evonik, DSM, Genencor, Henkel, Nutrinova, RWE, Sandoz, Schering, Südzucker and Symrise, to name but a few. Currently, BRAIN employs 120 highly skilled personnel.
The industrialization strategy, which was successfully launched in 2010 as the company’s second pillar of operation next to the co-operation business, has been expanded successfully. It permits BRAIN AG to access the BRAIN Group’s entire value chain of different lucrative markets, from the identification of biological solutions and their development to their implementation in the target industries. Currently, the BRAIN Group consists of six companies, all of which operate successfully in the market.
www.brain-biotech.de

About the Institute of Agricultural and Nutritional Sciences / University of Halle-Wittenberg (MLU):

The Institute of Agricultural and Nutritional Sciences at the Martin Luther University of Halle-Wittenberg is the only institution of higher education in the Federal States of Thuringia, Saxony and Saxony-Anhalt offering full-time academic education in its field of science. Twenty-one professors currently do research and teach in the fields of soil, plant, animal and nutritional sciences as well as agricultural economics and social sciences. The institute sets great store by deepening its teaching and research partnerships through cooperation with neighbouring disciplines both within the university and beyond. In addition, the institute maintains close relationships, also thanks to joint appointments to professorships, with the Leibniz Institute of Agricultural Development in Transition Economies (IAMO), the Helmholtz Centre for Environmental Research (UFZ), the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) based in Gatersleben and the German Centre for Integrative Biodiversity Research (iDiv). www.landw.uni-halle.de

Pictures

The excessive consumption of sugar in everyday food is seen as one of the risk factors causing various diseases such as dental decay, diabetes and obesity.
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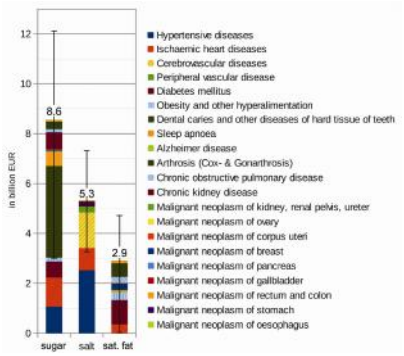

Nutrition-related health costs (figures in billion Euro) assigned to risk factors (sugar, salt, fat) and broken down into groups of diseases associated with them.
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