

10.09.2020 - 16:16 Uhr

## University UMIT TIROL publishes the first population model to evaluate benefits and harms of universal salt iodization

*Hall in Tirol (ots) -*

An article recently published by Schaffner and colleagues in the medical journal "*Thyroid*" summarizes the results of a decision-analytic population modeling study evaluating the benefits and harms of universal salt iodization. Iodine is a micronutrient that is essential for the production of thyroid hormones. Lack of iodine may cause a variety of iodine deficiency disorders. During pregnancy, iodine is especially important for the brain development of the fetus. However, excessive iodine consumption can also lead to thyroid diseases. This study reveals that iodine fortification of salt increases healthy life years in a population with moderate iodine deficiency, and is therefore beneficial on a population level.

The group of researchers at the tyrolean University UMIT TIROL developed a population model simulating the incidence and consequences of iodine deficiency diseases in the absence or presence of a mandatory prevention program for iodine deficiency disorders in the German population. The analysis included not only the current but also the offspring cohort.

The results suggest the German population - with around 80 million inhabitants - gains 5 million life years and 33 million healthy life years by universal salt iodization during the next 120 years. Even though the health of the population improves as a whole, iodine fortification is likely to come with negative consequences for some individuals as it may cause 2.7 million additional cases of hyperthyroidism during that time.

The complete study can be found here: <https://www.liebertpub.com/doi/10.1089/thy.2020.0062>

Project coordinator and first author of the study Monika Schaffner thinks this work will be key to improving public health in Europe: "We developed a population decision model that can be adapted to other countries and it can be updated as soon as new evidence is available. Our findings will support health care professionals and policy makers to advocate for the prevention of iodine deficiency and its consequences."

Coauthor and UMIT TIROL Associate Professor Nikolai Mühlberger, MPH pointed out that this study is an important step toward supporting evidence-based health policy decisions in Europe. "Benefits and harms of universal salt iodization need to be weighed carefully against each other before deciding on the implementation or continuation of a population based prevention program," says Mühlberger. Public health expert Assistant Professor Ursula Rochau adds: "Our work also reminds people of the importance of iodine and iodine deficiency disease."

UMIT TIROL Professor Uwe Siebert, MPH, Chair of the Department of Public Health, Health Services Research and Health Technology Assessment at UMIT TIROL sees an important role for population modeling in decision support: "During the COVID-19 crisis, the public observed how public health questions can and must be informed by population models. As one of the largest public health departments of Europe, it is our job to provide honest and transparent evidence-based information on benefits and risks of public health interventions to the public".

The UMIT TIROL Population Modelling Research Group evaluates long-term benefits, harms and cost-effectiveness of public health prevention and screening programs, identifies barriers to national and international prevention programs, and informs the public and health policy decision makers on using scientific evidence to improve the people's health.

### **About EUthyroid**

EUthyroid comprises 31 partners from 27 countries. With a budget of EUR 3 million, this research collaborative will make a significant contribution to analyzing iodine deficiency prevention measures in Europe. The research consortium 'EUthyroid - Towards a EUthyroid Europe' (No. 634453) was one of only 67 successfully funded research proposals - out of nearly 2,200 submitted - in the first call of the new Framework Programme of the European Commission: Horizon2020. [www.euthyroid.eu](http://www.euthyroid.eu)

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