

Making Europe smarter with better iodine supply

Harmonised iodine monitoring in Europe has the potential to overcome negative health outcomes of iodine deficiency, including cognitive deficiencies.

Novel infrastructure has now become available at the University Medicine Greifswald to advance harmonised monitoring of iodine intake in the European population and beyond. The EU financially supports scientists from 27 European countries in their quest to tackle iodine deficiency and its negative health outcomes. The University Medicine Greifswald coordinates the EUthyroid network, a pan-European initiative taking on the challenge of advancing the prevention of iodine deficiency. The World Health Organisation (WHO) states that monitoring is crucial to sustainably improve the iodine intake in Europe.

Iodine deficiency is the most important risk factor for thyroid disease in adults and children. Pregnant and nursing women in particular have an increased need for iodine in order to ensure optimal development of their children. Reduced intelligence is observed upon iodine deficiency during pregnancy due to aberrant brain development. In fact, iodine deficiency is the world's leading cause of preventable brain damage and for years the WHO has warned that Europeans are increasingly affected by the consequences of iodine deficiency.

Data about iodine intake are missing

Many regions of the world are iodine deficient according to the WHO. In Europe, natural iodine intake is heterogeneous due to many regional differences and where prevention programs exist, they are not harmonised. Thus, the European continent represents a complex patchwork of iodine supply and prophylaxis. Moreover, these programmes require regular monitoring to ensure that fortification programmes meet changing demands, given the adverse outcomes of over- or undersupply of iodine. “Europe has a lot of experience with harmonisation across national borders, but in the prevention of iodine deficiency we don’t make use of this expertise” said EUthyroid partner Professor John Lazarus from Cardiff University, regional coordinator of the ‘Iodine Global Network’ in Western and Central - Europe. “With EUthyroid a dynamic force was created supporting more effective preventive measures”.

In Europe, few countries have regular monitoring, but those engaged in regular studies are using heterogeneous methods and outcomes, which prohibit an appropriate comparison within meta-analyses. Epidemiologist Professor Henry Völzke at the University Medicine Greifswald and coordinator of EUthyroid has worked hard to overcome the variation in studies across Europe “As there is no uniform dataset for iodine intake we can only speculate about the magnitude of health problems resulting from a deficient iodine intake. EUthyroid provides the opportunity to rectify this unsatisfactory situation”.

Infrastructure available to standardise studies

One of the main tasks of EUthyroid was to develop tools to help researchers and study nurses to perform standardised monitoring studies. EUthyroid has now launched a comprehensive training infrastructure.

EUthyroid’s infrastructure includes: standardised socioeconomic status questionnaires, for children and adults, in several languages; an instructional video for ultrasound-based assessment of the thyroid gland in population studies; an online training tool assessing image data based on established standards; detailed laboratory instructions on study planning, specimen collection and the handling and analysis of iodine and thyroid parameters. A EUthyroid reference laboratory has also been established for comparative measurements of iodine status in Helsinki, Finland.

Professor Borislav Karanfilski, President of the National Committee for Iodine Deficiency and National coordinator of Euthyroid at the Centre for Regional Policy Research and Cooperation STUDIUM, Former Yugoslav Republic of Macedonia, has found them very useful “The Euthyroid tools are excellent and comprehensively cover all aspects of setting up a modern monitoring study. I wholeheartedly endorse the infrastructure and can warmly recommend anyone to make full use of it”.

Dr Iris Erlund at the National Institute for Health and Welfare (THL) in Helsinki, is glad to see that comparability has become an issue “Altogether, we need to emphasise quality issues in human studies, because it saves resources and takes science and societal inputs in the right direction. Prevention is always cheaper”. The laboratory at THL, which specialises in performing nutritional and clinical chemistry measurements from research projects, serves as the Euthyroid reference laboratory.

With the establishment of Euthyroid’s infrastructure and structures for inter-laboratory comparison, first steps towards improved iodine monitoring of the European population have been taken. Professor Henry Völzke stated “We are confident that sustaining this infrastructure beyond the lifetime of the project will be instrumental to achieve standardised monitoring studies in Europe and even worldwide”.

Background

About Euthyroid

Euthyroid comprises 31 partners from 27 countries and with a budget of € 3 million will make a significant contribution to analysing the status quo of iodine deficiency prevention measures in Europe. The research consortium ‘Euthyroid - Towards a Euthyroid Europe’ (# 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

About University Medicine Greifswald

Patient care, research and teaching are the three central pillars of the traditional University Medicine Greifswald. Today the modern University Medicine Greifswald includes a new campus hosting 21 clinics, 19 institutes and other facilities. More than 1,700 medical students receive their healthcare training at the University Medicine Greifswald.

www.medizin.uni-greifswald.de

About Iodine Global Network

The Iodine Global Network (IGN) comprises of more than 100 regional and national coordinators and partner agencies worldwide who are engaged in overcoming iodine deficiency. The IGN works closely with WHO and UNICEF and supports public, private, academic and civil sectors in the development and implementation of global and national programs for the prevention of thyroid disease.

<http://ign.org>

More photos: <http://euthyroid.eu/press-photos/>

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