Background

• Mercury and its compounds are toxic and are among the substances of higher concern globally.
• Toxicity depends on mercury compounds, route of exposure and duration.
• The European population is mostly exposed to organic mercury (methylmercury) due to seafood consumption.
• Previous studies have shown that mercury levels in the European population are higher in countries with higher seafood consumption.
• However, because of the beneficial nutrients it provides, seafood is an essential component of the human diet.

Materials and Methods

A pilot randomized intervention study is being developed in five European countries (Cyprus, Greece, Iceland, Portugal, Spain) on pregnant women with the following criteria:
- being 18-45 years old
- having a single pregnancy
- living in the sampling country for over three years
- being able to provide a hair sample
- not facing any medical conditions
- having a diet not excluding seaboard.

Sample size goal: 600 European pregnant women

Recruitment has face substantial challenges due to the COVID-19 pandemic (restrictions and lockdowns, overwhelmed health-care providers, extra-cautious pregnant women due to the pandemic) and although national teams worked hard to overcome obstacles and try to achieve the foreseen sampling goal the recruitment period had to be extended and recruitment it is still ongoing in some countries.

Results

Recruitment was done through health-care providers.

Intervention: provide and reinforce national recommendations on seafood consumption.

Hg levels assessed through analysis of total mercury in scalp hair samples collect at the beginning and at the end of the intervention period.

Key findings:
This study will allow to characterize mercury exposure in pregnant women in five European countries and its results will support the definition of policies to protect human health in vulnerable populations.

Conclusions

• This study will raise awareness about the importance of seafood consumption during pregnancy and promote the consumption of seafood with low mercury levels according to the existing national recommendations, contributing to the reduction of prenatal methylmercury exposure while assuring the nutritional benefits of seafood consumption. Furthermore it will allow to characterize the levels of mercury exposure in a susceptible population in five European countries.