

EDITORIAL

The Krakow Declaration: The last chance for Europe to eradicate iodine deficiency[☆]

La Declaración de Cracovia: la última apuesta europea para vencer el déficit de yodo

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In 1987 the journal *Endocrinology* published a monographic issue on iodine deficiency (ID).¹ Thirty-one years have gone by since then, and although the situation has improved, at least in Spain, the problem is still far from being definitively resolved. This situation generated a global European initiative – the EUthyroid project, funded by the Horizon 2020 programme – designed to finally settle this serious and silent problem, and culminated with the Kraków Declaration.^{2,3} Twenty-seven European countries, including Spain, participated in the EUthyroid project. Its main objective was to assess the ID prevention and control programs that exist in Europe and to create harmonized initiatives for the prevention and control of ID on the continent. The databases of different European studies were evaluated and a common database was generated.

Likewise, the results of the national laboratories were contrasted with the reference laboratory of the Helsinki National Institute for Health and Welfare. In our case, we contributed with national studies in adults, the Di@betes project,⁴ and in children with the Tirokid study.⁵ All this allowed for the creation of the first standardized map of iodine nutrition status in Europe, and data on the prevalence and incidence of thyroid diseases was unified. EUthyroid also conducted a meta-analysis of pregnant women cohorts in three European countries, assessing the impact of iodine nutrition on the cognitive development of offspring: the INMA cohort in Spain,⁶ Generation-R in The Netherlands,⁷ and the ALSPAC in the United Kingdom.⁸ This substudy was coordinated by the Spanish investigator from IS Global, Mónica Guxens. A very relevant aspect of the study was thyroglobulin assessment in samples collected on drying paper as a marker of ID in pregnant women. Lastly, EUthyroid also performed a cost-effectiveness analysis of the prevention of the disorders caused by ID in areas characterized by mild or moderate deficiency.

EUthyroid's aim was for European authorities to take definitive measures to eradicate ID and its consequences.

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In fact, the final message of the project, reflected in the Kraków Declaration, did not differ from that issued by the World Health Organization (WHO) over 20 years ago.⁹ This is both surprising and worrisome, and shows how little we have advanced in Europe in this field. At that time, emphasis was placed on the importance of the universality of salt iodization and the involvement of governments in implementing ID prevention programs. The progress made in Europe to date has been slow and very uneven, and in particular has been more a result of the actions of professional groups and scientific bodies than of well-structured healthcare policies. The 1999 WHO report indicated that access to iodized salt (IS) on the part of the population at risk of ID in Europe did not exceed 27%, while the figures in the rest of the world reached 68% and even 90% in the Americas.¹⁰ The reality is that optimum access was not achieved by either the generation of Gabriela Morreale and François Delange, or by our own generation, which moreover is now running out of time.

The Kraków Declaration represents perhaps the last opportunity to resolve this absurd situation. This unnecessary delay for European citizens has been attributed to difficulties in the implementation of universal salt iodization (USI) in some European countries and, also to the lack of a firm commitment on the part of the authorities. The WHO report ended with the following comment: "The reasons for the delay in Europe are essentially socioeconomic and political. These obstacles could and should be easily overcome in a short time". Twenty years later things remain the same, however. In our opinion, it should be emphasized that the main reason is political: a lack of political will. As things stand today, salt iodization is universal in only 15 out of 43 European countries.¹¹ In the remainder, characterized by voluntary access to IS, consumption varies widely, ranging from 5% in the United Kingdom to over 80% in Switzerland.^{12,13} Of note is the clear discordance between adequate iodine nutrition in schoolchildren (26 out of 29 countries with available data) versus pregnant women (with intake only appearing to be adequate in 5 out of 24 countries). Data from pregnant women in Spain are consistent with the general European situation, though there may be inter-regional differences.¹⁴ It is scandalous that in an ultra-competitive world, the European countries and the European Union have been unable to adequately protect the health and neurocognitive development of their younger generations through regulations designed to resolve the problem of ID, and which a priori are easy to develop and implement. We find this to be truly surprising. The pregnant populations in some European countries with universal salt iodization continue to present ID.^{11,13} This raises the question of whether IS intake is sufficient to meet iodine needs during pregnancy. This issue, which has already been addressed in Spain,¹⁵ points to the need for potassium iodide supplementation among pregnant women in most European countries.¹⁶ However, a crucial aspect – and there are few data on this – is whether salt is properly iodinated. Here again, the national food agencies should monitor the quality of IS, but this does not appear to be happening. At least in the case of Spain, no official data are available. According to an as yet unpublished project of our iodine nutrition group led by Dr. J.J. Arrizabalaga, the IS used in Spain was not adequately iodinated in half of the batches tested.

This return to the past to almost the beginnings of the fight against ID fundamentally reflects a lack of involvement on the part of the health authorities of many European countries, a situation that is both surprising and incomprehensible. The Kraków Declaration therefore represents no more than a reminder, albeit a "pan-European" reminder, of the "tasks and responsibilities of prevention programs referring to iodine deficiency disorders". The Declaration starts by reminding us that the problems associated with ID are still here, and by emphasizing the risk of neurocognitive impairment among offspring, as shown by recent publications.^{7,8,17} To ensure a Europe without ID, the Kraków Declaration proposes three actions: methods for preventing iodine deficiency disorders (IDDs); control of IDD prevention; and support of IDD prevention.

The promotion of universal salt iodization as a cornerstone prevention strategy is firmly supported by the Kraków Declaration, which also charges governments with the responsibility for its implementation. The salt industry in turn is responsible for production and quality control. Scientists and health professionals must contribute to deciding on the specific iodine dosage to be indicated in salt fortification. Iodine fortification of table salt was approved in Spain in 1983 (Royal Decree 1424/1983) at a concentration of 60 ppm. As mentioned in the Kraków Declaration, this concentration, which is the highest in Europe, is able to compatibilize IDD prevention with a low-salt diet for the prevention of arterial hypertension. However, in Spain the consumption of IS has yet to reach 90% of all families, as recommended by the WHO. Our Tirokid study revealed a mean consumption prevalence of 69.8%.⁵ Universal salt iodization would clearly allow iodine to be incorporated into the food chain, diversifying its sources and ensuring an adequate iodine supply. From the Spanish Society of Endocrinology and Nutrition (Sociedad Española de Endocrinología y Nutrición [SEEN]), we have repeatedly proposed to our health authorities that this would be a key decision for the eradication of IDDs. To date, this proposal has not been accepted, and although we have been trying for over 30 years, we will continue to strive to convince the authorities concerned of the importance of this issue.

The Kraków Declaration also highlights the need for the transnational harmonization of national IDD prevention programs. This, together with the universal adoption of a minimum salt iodine concentration, would allow safe and effective improvements in iodine consumption throughout the European Union.

According to the Declaration, governments are responsible for promoting and funding the monitoring of iodine nutrition in the population. Although Spain is one of the European countries that have generated the most studies in this field, very few have been government funded. At a recent meeting, the Spanish Ministry of Health agreed to include iodine nutrition monitoring in future health studies.

However, monitoring iodine nutrition cannot replace evaluation of the primary outcomes of the prevention strategy. Periodic evaluation is therefore required of the changes in the incidence of certain disorders related to iodine nutrition. Governments are also responsible for promoting and funding suitable databases and for funding their implementation, and scientists and healthcare

professionals in turn are responsible for executing and analyzing the related programs. In Spain we have some very useful databases and registries in this regard that should be exploited. EUthyroid has collected a lot of information at the European level. In our case we contributed data from Catalonia, and from the Thyroid Knowledge Area of the SEEN, data are now beginning to be collected in centralized databases.

The Kraków Declaration also emphasizes the need for health authorities to have a multidisciplinary “advisory committee”. Such a committee does not as yet exist in Spain, even though over the years the SEEN has repeatedly offered collaboration in initiatives for the prevention of IDD.

Lastly, the Kraków Declaration urges health authorities to conduct information campaigns targeted at the general population, especially when IS consumption is voluntary. At our last meeting with the Ministry of Health, its representatives also agreed to include the recommendation “salt: little but iodized” in future health campaigns.

It is hard to believe that this is the fourth editorial on which we have collaborated, both on the same subject and in the same terms, in the last 15 years.^{18–20} We can only hope that this will be the last and definitive intervention, and that the EUthyroid project and the Kraków Declaration will contribute effectively to the eradication of IDD through the incorporation of these repeatedly requested necessary measures over the coming years, both in Europe in general and in Spain in particular. Our next editorial comment should be on the definitive progress being made in the eradication of IDD. At least, we hope that this will be the case.

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