

# Customer shopping habits highlight risk of iodine deficiency in vegan diets

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Switching to alternative milk and removing seafood from your diet could lead to an iodine deficiency, which may have a negative impact on long-term health, a new study shows.

Using anonymized data from more than 10,000 Co-Op shoppers, a team of academics, led by Dr. John Harvey from Nottingham University Business School, analyzed their shopping habits to find out whether switching to alternative [milk](#) products could lead to various health issues.

Led by N/Lab at the University of Nottingham, the team identified regular Co-op loyalty card shoppers that did a 'big shop' at the Co-op in order to increase visibility of their whole diet and find the customers that made a switch to dairy alternatives. The work is [published](#) in the journal *Scientific Reports*.

Average weekly iodine levels of grocery purchases were calculated and analyzed to examine any reduction that resulted from the transition to plant-based milk.

The effects of the dietary transition on other key nutritional components of dairy milk, including calcium, vitamin B12 and saturated fat, some of which were fortified in plant-based milk, were also analyzed to compare the impacts of transition on other nutritional elements.

The primary sample to be analyzed consists of 10,626 frequent customers who met the inclusion criteria, and who purchased milk for at least four weeks before the transition point and plant-based milk for at least four weeks after the transition.

More than 81% of the customers analyzed decreased their average weekly intake of iodine once they switched to plant-based milk. Of those individuals, approximately 14% experienced a decrease of less than 25%, but around 20% experienced a severe iodine reduction of more than 75%.

The remaining 45% of the individuals experienced a drop between 25% and 75%. Similar results were observed for calcium and vitamin B12.

In contrast, more than 71% of consumers showed a positive reduction in their weekly intake of saturated fat, with about 23% reducing over 50% of their weekly intake.

With the increasingly popular "Veganuary" currently underway, the team behind the study are keen to encourage people to pay attention to their iodine consumption when suddenly changing their diet.

Dr. John Harvey, from Nottingham University Business School, said, "Every year we see a growing number of people experimenting with plant-based foods as part of their diet. There are many good reasons to consider such a transition.

"But our study demonstrates that if you are considering replacing milk in your diet, it is particularly important to consider whether you're getting sufficient iodine from other sources. Many alternative milks are not fortified with iodine, so check the back of the packet. If your preferred sources aren't fortified, consider incorporating iodised salt into your [diet](#) instead.

Dr. Simon Welham, assistant professor in nutritional science, added, "We are particularly concerned about the iodine intakes among women of childbearing age, as embarking on pregnancy with too little iodine can permanently damage the developing baby. I would reiterate John's point regarding the need to check the labels to ensure iodine is present, particularly for plant-based milk alternatives."

**More information:** Roberto Mansilla et al, Detecting iodine deficiency risks from dietary transitions using shopping data, *Scientific Reports* (2024). [DOI: 10.1038/s41598-023-50180-7](https://doi.org/10.1038/s41598-023-50180-7)

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