# Analysis highlights wheat flour fortification's impact on human health

by Food Fortification Initiative

Using varied study designs (none of which can confirm causality), a recently published analysis found that after wheat flour fortification was implemented at large scale in countries, many health outcomes were improved.

The analysis found that folic acid was the most studied nutrient and the most studied outcomes were neural tube defects, cancer, folate status, folate deficiency, anemia, iron deficiency, iron status, haemoglobin, and iron-deficiency anaemia (IDA).

For all of these outcomes except IDA, the majority of studies showed improvements after fortification. For IDA, some studies showed improvement and some showed worsening after fortification. One possible explanation for the conflicting results is that there are non-nutritional causes of anaemia in the population which cannot be addressed by fortification.

For some outcomes (cancer, anaemia, haemoglobin, folate deficiency), there were studies that indicated health outcomes worsened after fortification. Author of this analysis, scientist for the Food Fortification Initiative and professor at Emory University Helena Pachón, suggests that the discrepant results for cancer may be due to the amount of time between fortification implementation and data collection as well as sample size differences.

"In reconciling these conflicting results, we see two trends. One is that studies published in the 2000s tend to show a worsening of outcomes while the opposite is observed in studies published in the 2010s.

And two, worse outcomes are observed in studies with sample sizes less than 2000 individuals. Studies that observed no difference or a decreased cancer incidence after fortification have sample sizes greater than 2000," Ms Pachón notes,

Nevertheless, the majority of evidence suggests that wheat flour fortification improves many health outcomes. "This is a comprehensive review that included approximately 100 studies. The results can give policy makers confidence that fortifying flour provides health benefits to the population with little risk of harm," adds Ms Pachón.

To read the report in full, please scan the following QR code or go to: https://www.bdschapters.com/webshop/open-access/wheat-flour-fortification-and-human-health/