Flour Fortification

A possible strategy for the prevention of neural tube defects in Germany?

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BACKGROUND: Folate, a B vitamin essential for a healthy fetal development, aids in periods of rapid cell division and growth during pregnancy and throughout infancy. Folate is a general term for vitamin B9 that includes food folate and folic acid, which is used in supplements and food fortification. Sufficient folate-intake of 400µg DFE per day is crucial to prevent neural tube defects (NTDs) that occur during embryonic central nervous system development. The most common NTDs are spina bifida and anencephaly. The European NTD prevalence rate is 1-2 for every 1,000 pregnancies. A 1991 study proved that folic acid can prevent 72% of all NTD-afflicted pregnancies. As a result, the USA implemented mandatory folic acid fortification of flour, decreasing the NTD prevalence rate by 36%. Today, Europe is the only continent that does not mandate folic acid flour fortification, but instead advocates for information campaigns and recommends periconceptional intake of folic acid supplements.

OBJECTIVE: This master thesis aims to analyze the reasons for the reluctance to implementation of mandatory flour fortification in Europe, with an emphasis on Germany, having one of the highest NTD prevalence rates in Europe.

METHOD: In order to get a picture of the ongoing discussion of the public health intervention in Germany, this thesis provides a general literature review outlining different views, perceptions and public opinion on the topic. Expert interviews then provide more in-depth insight into the debate in Germany. These approaches explain

the progress in food and flour fortification and give an outlook to the future possibilities of implementing mandatory flour fortification with folic acid.

RESULTS: Implementing mandatory flour fortification with folic acid is highly unlikely in Germany, even though this public health initiative leads to a decrease in NTD cases, it is cost-effective and the latest research refutes earlier suggested health risks attributed to high intakes of folic acid. The literature review and expert interviews identified the synthetic character of folic acid and influential claims, although statistically inconclusive, about the potential health risks of folic acid, as the main reasons for the reluctance to mandatory fortification.

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