



Opinion

Micronutrients and vitamin deficiencies

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Many of these deficiencies are preventable through nutrition education and consumption of a healthy diet containing diverse foods, additionally as food fortification and supplementation, where needed. These programmes have made great strides in reducing micronutrient deficiencies in recent decades but more efforts are needed. Micronutrient deficiencies (e.g. in iodine and iron) influence the event of intelligence and remain a difficulty within the developing world. As an example, iodine deficiency causes a fall, on average, of 12 IQ points.

Policy recommendations to increase availability of micronutrient supplements are made and justified partly by the potential to counteract intelligence-related developmental problems. As an example, the Copenhagen consensus, states that lack of both iodine and iron has been implicated in impaired brain development, and this might affect enormous numbers of people: it's estimated that 2 billion people (one-third of the total global population) are laid low with iodine deficiency, including 285 million 6- to 12-year-old children. In developing countries, it's estimated that 40% of youngsters aged four and under suffer from anaemia due to insufficient iron in their diets.[16] A joint statement on vitamin and mineral deficiencies says that the severity of such deficiencies "means the impairment of the many many growing minds and so the lowering of national IQs." Overall, studies investigating whether cognitive function in already iron-deficient children could also be improved with

iron supplements have produced mixed results, possibly because deficiency in critical growth periods may cause irreversible damage.

However, several studies with better design have shown substantial benefits. A method to prevent iron deficiency is to administer specific supplementation to children, as an example as tablets. However, this can be often costly, distribution mechanisms are often ineffective, and compliance is low. Fortification of staple foods (cereals, flour, and sugar, salt) to deliver micronutrients to children on an outsized scale is probably the foremost sustainable and affordable option, while commitment from governments and thus the food industry is required. Developed nations fortify several foods with various micronutrients. Additional vitamin-mineral supplementation may have an impression also within the developed world. A study giving such supplementation to "working class," primarily Hispanic, 6–12-year-old children within the us for 3 months found a mean increase of two to 3 IQ points. Most of this might be explained by the very large increase of a subgroup of the youngsters, presumably because these weren't adequately nourished unlike the majority. The study suggests that folk of schoolchildren whose academic performance is substandard would be advised to hunt a nutritionally oriented physician for assessment of their children's nutritional status as a possible etiology. More speculatively, other nutrients may prove important within the long run. B vitamin and folate could even be

important for cognitive function in maturity. Oil supplement to pregnant and lactating mothers has been linked to increased cognitive ability in one study. Another study found that pregnant women who consumed 340 grams of low-mercury containing fish with fatty acids per week

have benefits that outweigh the risks for poisoning. They were less likely to possess children with low verbal IQ, motor coordination and behavioural problems. However, foods containing high amounts of mercury, like shark, swordfish, *Scomberomorus cavalla* and tilefish, might cause backwardness.