

**EDITORIAL****Combating micronutrient deficiency disorders amongst children**

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Micronutrients (MN) are the nutrients that are needed by the body in small quantities which play leading roles in the production of enzymes, hormones and other substances that help to regulate growth activity, development and functioning of the immune and reproductive systems. Children, adolescent boys & girls and expectant mothers form a vulnerable group in developing countries where economic stress and food security are issues of concern. MNs deficiencies, which have been considered as major risk factors in child survival are the leading cause of mental retardation, preventable blindness, morbidity, birth defects, morbidity and mortality. Micronutrient malnutrition has many adverse effects on human health, not all of which are clinically evident. Even moderate levels of deficiency (which can be detected by biochemical or clinical measurements) can have serious detrimental effects on human function. Thus, in addition to the obvious and direct health effects, the existence of MN deficiency has profound implications for economic development and productivity, particularly in terms of the potentially huge public health costs and the loss of human capital formation.

According to WHO mortality data, around 0.8 million deaths (1.5% of the total) can be attributed to iron deficiency each year, and a similar number to vitamin A deficiency. In terms of the loss of healthy life, expressed in disability-adjusted life years (DALYs), iron-deficiency anaemia results in 25 million DALYs lost (or 2.4% of the global total), vitamin A deficiency in 18 million DALYs lost (or 1.8% of the global total)

and iodine deficiency in 2.5 million DALYs lost (or 0.2% of the global total) [1].

A child belonging to low socio-economic families residing in poor environmental and sanitation settings consume low quantity of foods which deficient not only in 2-3 MNs Deficiencies but also in macronutrients. These children also suffer from recurrent episodes of morbidities which further deteriorates their micronutrients nutritional status. The direct supplementation of Micronutrients like Vitamin A, Iron are beneficial in short term but they are not sustainable. We do not know for how many years or generations we need to continue with direct supplementation. The families also develop a culture of dependence on the "state" for nutrition support. We need to look in to the long term but sustainable strategies. There is a need to strengthen the family resources so that family may able to look after the diet of children and prevent micronutrient deficiencies.

The Food Fortification is an important intervention. It is sustainable as the cost of fortification is borne by the beneficiaries who consume the fortified foods like the case of Iodized salt. However, an important consideration for the food fortification strategy is that it increases the cost of foods as compared to non-fortified foods. The poor families who do not have resources to buy raw food, they are more constraint for availability of foods. There is a need of developing Food Fortification strategies which are scientifically sound, operationally feasible and with proven effectiveness before they are implemented in developing countries. We need to assess this food fortification interventions carefully before we launch

them. We also need to ensure that the poorest to the poor, including families which are below the poverty line are covered on priority basis. The issue of implementation of targeted versus universal fortification of foods needs to be considered based on the epidemiological evidence of prevalence of micronutrient deficiencies in the region for judicious utilization of resources. To achieve this, there is a need of joining hands amongst the

nutrition scientists, public health specialists and food fortification technologists to shoulder responsibility towards devising effective and practical strategies to overcome the emergent challenges of micronutrient deficiencies on child health.

## References

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