



Connecting Agriculture with Nutrition and Health Challenges: Possible Solutions

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ABSTRACT

Health and nutrition of people are much important in developing country like India where a significant percent of people are in alarming situation of mal-nutrition. The government of India have taken various initiatives to eradicate malnutrition. This article has indicated some pragmatic solutions, which can help to solve the complex issue largely.

A significant parts of country's prosperity depends on its healthy people. A well-nourished country is a prerequisite to the sustainability and prosperity of a national economy. Health is the prime indicator of the nutritional status of a person, which is depends on the adequacy of food intake of in terms of both quality and quantity. Nutrition plays a prime factor for many diseases. Malnutrition is one of the major causes of morbidity in human-while it is over nutrition as in obesity, diabetes mellitus etc., or it may be under nutrition. Sound nutritional status can only be achieved when individuals, families, and communities are food and nutrition secure. Food security has defined as access by all people at all times to the food needed for a healthy life (FAO, 2019). Thus malnutrition, food insecurity, infectious disease and impaired productivity form a vicious cycle have impact on nutrition occurrence, morbidity and mortality pattern in infectious diseases like TB and HIV has been noted but not well recognized.

Securing of good quality nutrition in beginning life of an individual is very important for health of later life because under nutrition or over nutrition in early can cause lifelong, irreversible damage. It affects the poorest families in low and middle-income countries more than developed countries and cause to a vicious cycle of cognitive under performance, poor earning capacity and persistent under nutrition for next generation too.

There is enough manifest from these countries that maternal, fetal and child under nutrition increase short term morbidity and mortality in young children. It also causes reducing years in expected life of population.

Though economic growth was in positive trend for over past two decade, India remains home to a large

concentration of food insecure and undernourished people. According to the 2019 Global Hunger Index (GHI), India ranked 102nd among 117 countries which indicates the situation is alarming. The Global Nutrition Report (2014) on India, reported that presence of prevailing under nourishment over a period of three decades but the undernourishment have come down from 26% to 15%, though the period of progress over the decades is quite limited (Swaminathan S, 2016). According to National Family Health Survey (NFHS-3), the percentage of malnourished adults was 33% for women and 28.1% for men. The magnitude of the problem of under nutrition of women evident from the fact that every third women of reproductive age in India.

Existing Govt. of India Programmes/policies/schemes for nutrition

The Prime Minister's National Council for Nutrition Challenges provides policy directions, reviews and coordinates among various programmes. There are various programmes for provision of food/supplementary nutrition.

Supplementary nutrition is promoted as a gap filling programme which facilitates children under six year, pregnant and lactating mothers as one of the wing under the Integrated Child Development Service Scheme (ICDS). Creche scheme and Integrated Child Protection Schemes (ICPS) also works as support given to the eligible children for food as per norms of the scheme.

Govt. of India sponsored 'Mid-day Meal Scheme' is a school one time meal programme designed to enhance nutritional status of primary school going children countrywide. The programme provides lunches on



working days in school for children in primary and upper primary classes in Government schools. At present this programme serves 120,000,000 children in over 1,265,000 schools and education guarantee scheme centers.

Another programme introduced namely 'Rajiv Gandhi Schemes for empowerment of Adolescent Girls' (RGSEAG), namely SABLA provides a package of number of services including nutrition and health to adolescent girls of age group 11-14 years for out of school girls and 15-18 years for all girls for nutrition in as a pilot programme in 200 districts. Another programme named Indira Gandhi Matritva Sahog Yojana (IGMSY) provides direct cash assistance as an facilitating environment for improved nutrition and health to pregnant and lactating mothers and as support for providing early and exclusive breastfeeding for the first six months of life. It is implemented on pilot basis in 52 districts. There is also provision of supply of essential food items at subsidized rate through Targeted Public Distribution System (TPDS) and Antodaya Anna Yojan(AAY) for general population.

The AAY facilitates identification of one crore poorest of the poor families from among the Below Poverty Line (BPL) families within the state and supplying them staple food grains at a highly subsidized rate of Rs. 3 per kg for rice and Rs. 2/ per Kg for wheat. The Union Territories /states are need to bear distribution costs. Thus the entire food subsidy is being utilized by the consumers in this scheme.

In addition, The Government has also introduced the Food Security Bill. National Food Security Act implemented in 2013 (also right to food act) which assures provision of subsidized food grains to approximately two thirds of India's BPL population. It was documented as law on September 12; 2013. This programme includes the 'Midday meal scheme'; 'Integrated Child Development Service Scheme' which are universal in nature whereas the Public Distribution System (PDS) reached about two-thirds of the population (75% in rural areas and 50% in urban areas). Under this programme beneficiaries of the PDS are entitled to have 5 kilograms per person per month of cereals (Rice/wheat) at subsidized price.

Begin with advocacy

- Among the other South Asian nation, India initiated for advocacy programmes as a starting for food fortification initiatives. Already some Non-Governmental

Organizations (NGOs) and private organizations are actively involved in the food fortification programme with support from the Government, there is need of the hour is to promote unique initiatives which will results in healthy and nourished lifestyle among the poor.

- In most of the Indian states like Haryana and Rajasthan, local mills processed 80 per cent of the wheat consumed. Some NGOs are initiated link-up with local mills to ensure micronutrient fortification with provision of vitamin A and vitamin D in flour.
- Public/private partnerships have capability of help to resolve the issue through successful business models. Phillipines experienced the similar incidence where 40 per cent of children below six years suffered severe Vitamin A deficiency in 2008, results in disease like night-blindness and Bitot's spots. So, The government initiated a nationwide food fortification program by fortifying sugar with vitamin A, as it is the one of the most widely consumed food in the country. Government initiated this step with support of country's sugar manufacturer initially and then extended it to various other food items such as fruit juices, noodles, margarine, canned tuna, etc.
- Another successful initiative in India is to supply of vitamin A sachets to schoolchildren in government schools along with nationwide midday meal programme.
- Awareness can be created about balanced diet with food fortification and vitamin supplementation among people by creating a sustainable food fortification programme where stakeholders such as wheat and oil mill manufacturers, the Food and health department representatives, Nutrition Research Institute and the UNICEF, came together to address the malnutrition issue.
- So there should be joint effort with public and private organizations, consumers and Government with common interest goals to address challenges of nutrition insecurity.
- To achieve the targets of Sustainable Development Goal (SDG) promotion establishment of nutri-garden can be a possible options (Shubha et al., 2020).
- Some of the states taken initiative in this aspects but there is need to reach such programmes nationwide.

Make it the law

- Our nation require a countrywide programme such as the widely successful programme of salt



fortification with iodine, which has considerably require to reduce goitre on a sustainable and affordable basis.

- We can take example of our neighbouring countries like Bangladesh and Pakistan. Bangladesh already started a national wheat and oil fortification programme by adding vitamin A, zinc, iron, Vitamin B1, B2, folic acid and niacin nutrients across the nation. Pakistan initiated a countrywide programme to solve anaemia and vitamin A related malnutrition problem through undertaking of atta fortification with iron and edible oil/ghee with vitamin A and D. Bio fortification also done in wheat crop with iron and zinc; and zinc-fortified fertilizer. These initiatives are supported by their respective Central Government. Hence we should learn from other developing country and apply in our country.
- In India, some steps taken in the right direction but there is need to go for more
- We are gradually taking some steps in the right direction, but we need to do very much more.
- The Group of Secretaries on Education and Health — Universal Access and Quality has, among other things, identified fortification of food items like salt, edible oil, milk, wheat and rice with iron, folic acid, vitamin D and vitamin A, with a timeline of three years, as one of the measures to be undertaken to combat the address of malnutrition in the country.
- A task force is to be formed to support food fortification. Thus we need prompt action with unified front.

Conclusions

Though rapid progress done in food production in our country, consumption of food and nutrition remain insufficient quantitatively and qualitatively. There is also major incidence of stunting and malnutrition among children. Anaemia is prevalent among children and women. Iron and iodine are among major incidence of big health challenges of India. Not only malnutrition, over nutrition or obesity is rising problem among rural and urban population. One-fourth of adults having hypertension and approximately 75 million adults are diabetic/glucose tolerance. Thus our nation is passing through most critical phase with load of triple burden of malnutrition, over nutrition and communicable diseases.

Hence we can conclude with agricultural development has great opportunities for our country. So diversification of agriculture in sustainable way facilitates the way for health and nutrition. Good food security along with nutrition, access to safe drinking water and clean sanitation assures less incidence of diseases and better healthy environment. It will reduce poverty of 800 million people living in less than \$ 1.25 a day (Sharma and Sarkar, 2018). So there is great opportunity that health, nutrition and agriculture communities can work together to mitigate challenges of reducing poverty, malnutrition and improved health.

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