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A REVIEW

Effect of Seasonal Variation in Iron Status

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Anaemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. Iron deficiency continues to be the leading single nutritional deficiency in the world, despite considerable efforts over the past 3 decades to decrease its prevalence. Iron deficiency is a principal cause of anaemia. Two billion people over 30 per cent of the world's population are anaemic (WHO, 2013). The prevalence of anaemia in India is 55.6 per cent. In Punjab it is on the worrisome front, 80.2 per cent of the children in the age group of 6 month to 3 years, 38.4 per cent young women in the age group of 15-49 years and 41.6 per cent pregnant women are recorded as suffering from anaemia (NFHS-III, 2005-06).

The main reasons for iron deficiency anaemia (IDA) have been determined to be inadequate intake of iron, low bioavailability (1-6 percent) of dietary iron from plant foods (Narasinga Rao *et al.*, 1983) due to inhibitory factors, low levels of absorption enhancers in the diet, repeated pregnancies, increased needs during growth and development among children and adolescents, parasitic infestations and chronic blood loss.

The nutritional status of population is a direct reflection of the cumulative effects of availability of food in terms of quality and quantity and the ability to digest, absorb, and utilize food. Food availability is not only influenced by dietary practices, cultural traditions, family structure, birth intervals, and meal pattern and food allocation but also influenced by seasonal variability. Seasonal and climatic changes determine the agricultural cropping pattern and vary the production and availability of local foodstuffs, thus affecting the household food security, dietary practices in turn of nutritional status of population. The intake of iron and other blood forming nutrients is influenced by availability of foods like green leafy vegetables or oranges or guavas, which influenced iron security and anaemia status. The frequency of consumption of foods rich in blood forming nutrients by the adolescent girls are reported to be higher during rainy and winter compared to summer. Irrespective of locality, girls recorded higher mean haemoglobin level during winter (9.88g/dl) and rainy (9.87g/dl) season compared to summer (9.63 g/dl) (Deepa *et al.*, 2004a). Rainy and winter season are ascribed to availability and consumption of green leafy vegetables and other foods rich in blood forming nutrients like orange, papaya, guava, carrot, grapes, *amla* and pumpkin. This is contributed to improvement in haemoglobin level.

India is a country with diverse agro-climatic condition which favors the cultivation and availability of wide array of foods specially