Micronutrient deficiency is prevalent in both high-income and low-income countries globally causing major health issues, especially iron deficiency which causes hypoproliferative microcytic anemia. Iron deficiency anemia affects more than two billion people on earth, especially pregnant women, infants, and women of reproductive age. Iron plays a key role in the formation of red blood cells and reactions occurring in the human body. Food is one of the best and safest options to prevent and cure iron deficiency anemia. In the present study, we highlighted different foods with special reference to plant-based foods for the treatment and prevention of iron deficiency anemia. Literature revealed that major cereal crops, cumin seeds, green leafy vegetables, moringa leaves, papaya with supplements, beet root, apples, pomegranate, bael, sugar molasses, and berries are best sources of iron due to the presence of ascorbic acid. Prebiotics and probiotics fortification can also increase the iron absorption in the gut by providing optimum pH for absorption. In addition to changing dietary patterns, fortification of major crops, oils, and salt should be made mandatory by as in many countries. Moreover, iron-fortified formulas, complementary food, beverages, baked items (cookies), and confectionary are best ways to prevent and cure iron deficiency anemia in children and adults. Similarly, sugar molasses from sugar industry is one of the superabundant sources of iron which can be used as supplement for value addition. However, human research is required to check the efficacy of fortified products to prevent iron deficiency anemia in future generations.
chief causative factor of 50% of all kinds of anemia. Nutritional Anemia is a worldwide health issue in emerging countries and developed countries having advanced health facilities. It affects people of all age groups, irrespective of gender, including babies, children, youngsters, pregnant and lactating women, and men [10]. It is conspicuous that iron-deficiency anemia (IDA) is the significant limiting factor for the growth and development of children that affects cognitive performance, immune status, physical capability, and sexual performance, particularly in developing countries encompassing middle-income populations [11,12]. Most issues of anemia are instigated by discrepancies of iron homeostasis, and iron is critical for hemoglobin development. The difficulty occurs due to the inadequate amount of iron that is required for erythropoiesis that can be triggered by two different processes, absolute or functional iron deficiency (ID). Absolute iron deficiency roots iron deficiency anemia(IDA), the most common form of anemia. However, functional iron deficiency, the second most frequent reason of anemia globally that causes anemia of chronic disease (ACD) [13-15]. Consumption of food rich in micronutrients showed a reduction in anemia in adolescents in Indonesia, especially iron and vitamin A. Therefore, there is a strong relationship between dietary intake and nutritive status of a body [16]. Iron (Fe) is acritical component for life that shows a vital role in numerous physiological processes, namely cellular propagation and metabolic actions, such as mitochondrial catabolic and anabolic reactions (energy production), immune surveillance, and oxygen transportation [17, 15]. So, it is essential to meet the requirements of spongy tissues inside the bone for erythropoiesis [18,19]. The human body cannot synthesize iron; therefore, it meets its requirement from food that is the only natural source. Even though the human body recovers and recycles this mineral, one way or another, it loses some iron daily through needling replacement. Macrophages recycle most iron from senescent erythrocytes, managing body needs; only 5 to 10% of iron comes from the food [20,21]. Iron is crucial for the maturation and development of the brain and spinal cord growth and development during infancy, especially around the age of six months, because iron stores are exhausted. Hence complementary diets are introduced for preventing iron deficiency anemia [11, 22]. In 2016, over 1.2 billion people were iron deficient, among which 89 percent were from developing countries [14, 31-35]. In Africa, 16% of children younger than five years suffer from iron deficiency [46, 47]. The pervasiveness of iron shortage in female athletes is greater than their males. Athletes require a tremendous amount of iron for well-being throughout the season; predominantly female athletes, especially during periods, are at higher risk of developing IDA because of extreme blood loss. Almost 15-50% percent of athlete women are iron deficient and 25% suffer from IDA [48-52]. According to the statistics one in two children under five years of age are suffering from the hidden micronutrient deficiency and almost two billion population of the world is iron deficient [53]. Conferring to nutritional surveys such as the feeding infants and toddlers study and the national health and nutrition examination survey, iron consumption is reduced over twenty years among 6-12-month-old infants [54-56]. As reported by a recent survey of the United States, exclusive breastfeeding rates are estimated at 47% at three months and 25% at six months. Most breastfed infants are supplemented with iron-fortified baby formula recommended by DGA to avoid iron deficiency [57,58]. Information shared by UNICEF mentions that 55% of South Asian teenage girls of 15-19 years age is anemic, 11% are underdeveloped, and 39% are thin [59]. Iron deficiency anemia is quite prevalent in Pakistan due to bad socioeconomic conditions and lack of nutrition knowledge. Almost 65-78% of children are suffering from it though 39% of adolescents are affected, and yet 50%, of women of child-bearing age are bearing its consequences; nevertheless, 90.5% of pregnant ladies are anemic and iron deficient [60-62]. However, only 20% of women had average hemoglobin levels [64]. IDA can be due to iron malabsorption because of celiac disease, atrophic gastritis, reduced acidity in stomach (H2 blockers, antacids, and protein-pump inhibitors), and iron refractory iron deficiency anemia [68-70]. Iron deficiency disturbs the accuracy of the cognitive skill in a varied sort of daily chores via different processes by prompting nerve myelination; formation and regulation of neurotransmitters; synaptogenesis and neurogenesis [65-71]. Iron is found principally in two readily reversible oxidation conditions in ferric (Fe3+) or ferrous (Fe2+) in foods. Iron is a transition metal that displays properties of oxo- and lipophilicity and are able to form complex compounds by combining with O-, N- and S- atoms on donor ligands [82]. Hem iron is the superabundant source of iron as it has the highest tendency to pass through the gut. These factors promote the absorption present in animal sources are collectively known as "meat factors," Almost 40% of the iron found in animal foods as organic Fe (haem iron). It is ingested in minor amount but shows two to threefold more bio-availability than nonheme iron [79-84].

**Conclusion**

Iron deficiency anemia is one of the most abundant disease in the world which demands implementation of efficient
and effective strategies globally. Food plays a vital role in maintaining the nutritional balance in human body. By monitoring lifestyle and changing dietary patterns IDA can be prevented and cured easily which cause major problems and delays growth and development of human body.

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