STUDENTS' CORNER
LETTER TO THE EDITOR

Iron deficiency anaemia: The psychological menace

Manahil Tariq Malik[1], Rameen Tariq Malik[2], Amera Tariq[3]

Madam, As per the World Health Organisation, anaemia is the condition of having an inadequate number of red blood cells or if the concentration of haemoglobin in them is reduced. Haemoglobin is a complex protein component of RBCs that carries oxygen around the body, a deficiency that can lead the person to experience fatigue, dyspnoea, weakness, dizziness etc.[1] Such an ailment is bound to make daily life activities difficult and take a toll on one's mental health.

The WHO approximates that anaemia is prevalent in two billion people world-wide. There are many reasons for anaemia, including nutritional deficiencies, menstruation, stomach ulcers, parasitic infections, chronic illnesses and haemoglobinopathies etc. Nutritional deficits are the most common cause of anaemia, among which iron deficiency is namely the guiltiest, accounting for half of the total cases world-wide. It is a global public health travesty, especially for children and pregnant women.[1]

A vital component in the synthesis of the haemoglobin molecule is iron. Haemoglobin that is iron-deprived produces hypochromic and microcytic red blood cells. Iron is associated with several neurological functions, a deficiency of which leads to poor myelination of the white matter as well as a disturbance in monoamine metabolism. Additionally, fluctuations in the levels of brain iron interfere with the homeostasis of neurotransmitters such as gamma-aminobutyric acid and glutamate. Enzymes for synthesising neurotransmitters like dopamine and serotonin-essential in the modification of mood, anxiety, and other emotional behaviours- require iron as a vital component.[2] Abnormalities in the physiology of these neurochemicals due to disruptions in an adequate iron supply will undoubtedly increase the likelihood of associated disorders, including but not limited to depression, anxiety, sleeping issues, developmental and emotional afflictions etc.

A research paper comparing the risk of various psychiatric illnesses in patients with iron deficiency anaemia and healthy controls concluded the IDA group at a higher risk for developing anxiety, depression, sleep disruption, and psychotic disorders. Interestingly, it also found t that IDA with iron supplementation reported remarkably lower risks of psychiatric disturbances.[3]

It is, thus, necessary to monitor iron levels in anaemic individuals and where needed, introduce supplements to reduce the risk of developing and/or progression of psychiatric disorders. Further studies are also required to better expound on the relationship between iron deficiency anaemia and psychiatric illnesses.

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[1]2nd Year MBBS Student, Aga Khan University, Karachi, Pakistan; [2]4th Year MBBS Student, Bahria University Medical and Dental College, Karachi, Pakistan; [3]Department of Gynaecology, PNS Shifa, Karachi, Pakistan.
Correspondence: Manahil Tariq Malik. e-mail: manahil.malik@scholar.aku.edu
ORCID ID. 0000-0002-8547-3194