



CODEN [USA]: IAJPBB

ISSN : 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

Available online at: <http://www.iajps.com>

Research Article

PREVALENCE OF IRON DEFICIENCY ANEMIA AMONG OUTDOOR PATIENTS

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Article Received: November 2020 Accepted: December 2020 Published: January 2021

Abstract:

Iron-deficiency anemia is anemia caused by a lack of iron. Anemia is defined as a decrease in the number of red blood cells or the amount of hemoglobin in the blood. When onset is slow, symptoms are often vague such as feeling tired, weak, short of breath, or having decreased ability to exercise. This cross-sectional study was conducted among outdoor patients presenting in different hospitals. The sign, symptoms and Hb levels of all the patients was checked. All the data was entered and analyzed with SPSS Ver. 23.0. There were 80 patients that were included in this study. The mean age of the patients was 31.34 ± 3.21 years. There were 40 (50%) males and 40 (50%) females included in this study. All of the patients presented with generalized weakness and light fever. Out of 80 patients, 53 had normal level of Hb and rest of the patients ($n=27$, 33.75%) were having low levels of Hb.

Keywords: *Iron Deficiency Anemia*

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Please cite this article in press Rana Sajid Ali Khan *et al*, *Prevalence Of Iron Deficiency Anemia Among Outdoor Patients.*, *Indo Am. J. P. Sci*, 2021; 08[1].

INTRODUCTION:

Iron-deficiency anemia is anemia caused by a lack of iron. Anemia is defined as a decrease in the number of red blood cells or the amount of hemoglobin in the blood. When onset is slow, symptoms are often vague such as feeling tired, weak, short of breath, or having decreased ability to exercise. Anemia that comes on quickly often has more severe symptoms, including: confusion, feeling like one is going to pass out or increased thirst. Anemia is typically significant before a person becomes noticeably pale. Children with iron deficiency anemia may have problems with growth and development. There may be additional symptoms depending on the underlying cause.

Iron-deficiency anemia is caused by blood loss, insufficient dietary intake, or poor absorption of iron from food. Sources of blood loss can include heavy periods, childbirth, uterine fibroids, stomach ulcers, colon cancer, and urinary tract bleeding. Poor absorption of iron from food may occur as a result of an intestinal disorder such as inflammatory bowel disease or celiac disease, or surgery such as a gastric bypass. In the developing world, parasitic worms, malaria, and HIV/AIDS increase the risk of iron deficiency anemia. Diagnosis is confirmed by blood tests.

Iron deficiency anemia can be prevented by eating a diet containing sufficient amounts of iron or by iron supplementation. Foods high in iron include meat, nuts, spinach, and foods made with iron-fortified flour. Treatment may include dietary changes and dealing with underlying causes, for example medical treatment for parasites or surgery for ulcers. Iron supplements and vitamin C may be recommended. Severe cases may be treated with blood transfusions or iron injections. Iron-deficiency anemia affected about 1.48 billion people in 2015. A lack of dietary iron is estimated to cause approximately half of all anemia cases globally. Women and young children are most commonly affected. In 2015, anemia due to iron deficiency resulted in about 54,000 deaths – down from 213,000 deaths in 1990 (1-3). The purpose of this study was to see the prevalence of iron deficiency anemia among outdoor patients of different hospitals.

MATERIAL OF METHODS:

This cross-sectional study was conducted among outdoor patients presenting in different hospitals. The sign, symptoms and Hb levels of all the patients was checked. All the data was entered and analyzed with SPSS Ver. 23.0. The quantitative variables were presented as mean and standard

deviation. The qualitative variables were presented as frequency and percentages.

RESULTS:

There were 80 patients that were included in this study. The mean age of the patients was 31.34 ± 3.21 years. There were 40 (50%) males and 40 (50%) females included in this study. All of the patients presented with generalized weakness and light fever. Out of 80 patients, 53 had normal level of Hb and rest of the patients (n=27, 33.75%) were having low levels of Hb.

DISCUSSION:

Anemia can result from significant iron deficiency. When the body has sufficient iron to meet its needs (functional iron), the remainder is stored for later use in cells, mostly in the bone marrow and liver. These stores are called ferritin complexes and are part of the human (and other animals) iron metabolism systems. Men store about 3.5 g of iron in their body, and women store about 2.5g. Hepcidin is a peptide hormone produced in the liver that is responsible for regulating iron levels in the body. Hepcidin decreases the amount of iron available for erythropoiesis (red blood cell production). Hepcidin binds to and induces the degradation of ferroportin, which is responsible for exporting iron from cells and mobilizing it to the bloodstream. Conditions such as high levels of erythropoiesis, iron deficiency and tissue hypoxia inhibit hepcidin expression. Whereas systemic infection or inflammation (especially involving the cytokine IL-6) or increased circulating iron levels stimulate hepcidin expression. Iron is a mineral that is important in the formation of red blood cells in the body, particularly as a critical component of hemoglobin. About 70% of the iron found in the body is bound to hemoglobin. Iron is primarily absorbed in the small intestine, in particular the duodenum and jejunum. Certain factors increase or decrease absorption of iron. For example, taking Vitamin C with a source of iron is known to increase absorption.

Some medications such as tetracyclines and antacids can decrease absorption of iron. After being absorbed in the small intestine, iron travels through blood, bound to transferrin, and eventually ends up in the bone marrow, where it is involved in red blood cell formation. When red blood cells are degraded, the iron is recycled by the body and stored.

When the amount of iron needed by the body exceeds the amount of iron that is readily available, the body can use iron stores (ferritin) for a period of time, and red blood cell formation continues normally.

However, as these stores continue to be used, iron is eventually depleted to the point that red blood cell formation is abnormal. Ultimately, anemia ensues, which by definition is a hemoglobin lab value below normal limits (4-6).

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