Frequency of Iron Deficiency Anemia in 6Months-12 Years Old Children in The Outpatient Clinic of Al Fayoum University Hospital

Thesis

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بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم

صدق الله العظيم

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Abstract

The present study aimed to investigate the frequency of IDA in the outpatient clinic of Al Fayoum University Hospital in Al Fayoum Governorate ,Egypt .

The study was carried out from September 2010 to April 2011, in the outpatient clinic of Al Fayoum University Hospital . A total of 300 children aged 6 months to 12 years were enrolled in the study. During the study period, all children attending on two successive days weekly (2 different days each week to cover the 6 working days of the week) were enrolled in the study.

The questionnaire was covering the following elements; age, sex, family size, socioeconomic standards, mother education, date of attending, dietary habits. Measures for weight and height were done and analysed according to growth curves. Blood samples were taken for CBC and iron praofile.

Our results showed that, 73 (24.3%) childern out of the total studied group (300 childern) were found to have iron-deficiency anemia (the hieghest percent among 6m-2y age group(75%). According to gender, the frequency of iron deficiency anemia among girls was 67% which is higher than that found among boys 32%.

. The frequency of IDA was high among children with low socioeconomic standards and less educated mothers.

Key words:

IDA, children, Fayoum Governorate

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List of Abbreviation

AI	Adequate intake
AAP	American Academy of Pediatrics
ARS	Agricultural Research Service
CBC	Complete blood count
CDC	Centers of Disease Control and Prevention
DCT-1	Divalent cation transporter
DMT-1	Divalent metal transporter
DNA	Deoxy ribo nuclic acid
GV	Growth velocity
Hb	Hemoglobin
HCT	Hematocrit
HHS	Health Human Services
HIP	Heme iron polypeptide
IDA	Iron deficiency anemia
ID	Iron deficiency
IPC	Iron(III)-hydroxide polymaltose complex
IMP	Integrin –mobiliferrin pathway
MCHC	Mean Corpuscular Hemoglobin concentration
MCH	Mean Corpuscular Hemoglobin
MCV	Mean Corpuscular volume
Ppm	Parts per million
RBCs	Red blood cells
RDA	Recommended dietry allowance
RDW	Red cell distribution width
R&W	Read &Write
SD	Standard deviation
SFT	Stimulators of iron transport
SI	Serum iron
SPSS	Statistical Package for Social Science
TIBC	Total iron binding capacity
TLC	Total leucocytic count
TS	Transferrin saturation
UNCF	United Nations Children Fund
UNRWA	M-United Nation Relief and Work Agency
UNU	United Nation University
USDA	United States Department of Agriculture
WHO	World Health Organization

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Introduction and aim of work

Introduction

Iron deficiency is the most common nutritional and haematological disorder worldwide affecting about 2 billion people ***(Almeida et al.,2004).*** Iron deficiency anemia (IDA) occurs when the dietary intake or absorption of iron is insufficient, and hemoglobin, which contains iron, cannot be formed ***(Brady, 2007).***

Even moderate anemia (hemoglobin < 10 g/L) has been consistently shown to be associated with depressed mental and **motor development in children*(McGregor and Ani, 2001).*** Anemia also reduces physical work capacity and cognitive function and adversely affects learning and scholastic performance in school girls entering adolescence ***(Akramipour et al.., 2008)***.

Diagnosis of iron deficiency(ID) is not always easy. Low serum levels of ferritin or transferrin saturation, imply a situation of absolute or functional ID. It is sometimes difficult to differentiate IDA from anemia of chronic diseases ***(Bermejo et al.,2009).*** The serum ferritin is the sole useful measure of iron stores, setting the lower limit at 10 microg/l for some populations in order to increase the sensitivity of the test***(Zhu et al.,2010).*** Diagnosis is supported by low mean corpuscular volume and increased red cell distribution width ***(Pusic et al,2005).***

.In addition to identify children with iron deficiency, it is rcommended that health care providers educate all parents about iron-rich foods and food enhancers of iron absorption, such as heme and vitamin C***(Schilling and Zidenberg ,2004).***

Aim of work

The aim of this study was to assess the frequency of iron deficiency anemia and relation to variables such as gender, age, weight, height, mother's education, and number of family members in 6months-12years old children in patients attending outpatient clinic of Al Fayoum University Hospital in Al Fayoum Governorate.

Review of literature