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FREQUENCY OF IRON DEFICIENCY'S ANEMIA AMONG FEMALE UNIVERSITY STUDENTS

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ABSTRACT
Introduction: Female adolescent and adult are among the population groups who are most affected iron deficiency. Thus aim of this study was to investigate the prevalence of iron deficiency anemia in female student aged 17 to 25 years old from the International Sudan University. **Methods:** 100 female university students participated in the study. Haemoglobin (HB) and RBcs aIndices, (MCV, MCH, MCHC) and serum iron, were measured, Iron deficiency anemia was defined as situation where HB id less than 11 and MCV les than 78FL and serum iron less than 60 micro g/dl. **Results:** The complete data was available for 100 students, normal iron was found among 100% of the subjects.

KEYWORDS: Adults females, iron deficiency anemia, medical students.

INTRODUCTION
Anemia is a condition that develops when blood Anemia – caused by lack of nutrients – is considered to be one of the most prevailing outcomes of insufficient diesis from which nowadays human being suffer. According to World Health Organization in Eastern Mediterranean Region there are nearly 149 million people suffering fro5-/m anemia.[1] Anemia has different reasons, but almost 50 percent of anemia occur due to iron deficiency.[2] Iron deficiency anemia is the most prevailing anemia in the world and more than 2 billion people are infected with this disease.[3] Iron is considered to be an essential micro – nutrient for proper function of body organs and for normal learning, positive behavioral changes, suitable cognitive reaction and metabolism of hormones and reproduction.[4,5] Also during the puberty, due to growth process, the body requires more iron.[6]

The side – effects of iron deficiency include: decrease of working capacity, decrease of reproduction strength, decrease of memory function, decrease of learning potentiality and subsequently academic failure during the school time and decrease of endurance against diseases caused by weakness of immune system[7,8,9], Women child bearing age having additional risk of developing anemia because of their monthly menstrual blood loss and nearly 50 percent of female in this age group are anemic, one average healthy woman loses about 25- 30 ml of blood monthly. There for, the bodyneed to produce blood in order to compensate for this loss and if the essential nutrient required for haemopoiesis are not supplied in their diet.

MATERIAL AND METHODS
This was cross – sectional study of the frequency of iron deficiency anemia in female students aged 17-25 years old total 100 female students from the International Sudan University, Blood sample were collected by well trained technicians, Blood sample were ground in to appropriate anti coagulant tubes then transferred to hospital lab for complete blood count (CBC) analysis one same day using sysmex, Serum separated, serum iron was performed on the collected samples.

RESULT
Total of 100 blood samples were collected from female students and were examined for assessing the frequency of iron deficiency anemia and the result showed that there was statistically insignificant diffrence in the mean of HB (P = 0.21), HCT(P = 0.40), MCV (P = 0.07) and the serum iron (P = 0.325), as shown in table 2.

Table 1: Frequency of age group among study population.

Age group	No.	%
17-20	58	58%
21-25	42	42%
Total	100	100%

Table 2: Frequency of some hematological parameters among study population.

P.value	Mean ± SD	Parameters
0.21	11.63 ± 4.0	Hemoglobin g/dl
0.40	34.9 ± 4.0	Hematocrit %
0.96	79.27 ± 7.12	Mean cell volume (fL)
0.67	26.62 ± 2.86	Mean cell Hemoglobin (pg/cell)
0.07	32.10 ± 1.75	Mean cell Hemoglobin concentration (g/dl)
0.325	107.39 ± 33.67	Serum iron (µg/dl)

DISCUSSION

Iron deficiency, the most common nutritional deficiency world wide, has negative effects on work capacity and overall health of infant, children, adolescents and women.[10,11] Iron deficiency anemia (IDA) is most prevalent and severe among women of reproductive age.[12] According to the National Health and Nutrition Examination Survey, the prevalence of iron deficiency anemia was greatest among adult females than male aged 12 to 49 years in United State between 1999 -2000.[13]

In Saudi Arabia, a recent study (2015) conducted in 2007–2008 at Taibah University and showed that the prevalence of iron deficiency anemia was (64%) among female students. They linked the high prevalence of iron deficiency anemia to life style of female students as well as to their dietary habits.[14] Another study, reported IDA with 23.9% among Saudi young females between (18 and 23) years apparently healthy at University stage, in Jeddah city.[15] There was a significant correlation between iron deficiency and iron deficiency anemia with inadequate meat intake and impaired exercise capacity.

This study was carried out in hospital lab, Khartoum Sudan and aimed to assess the frequency of iron deficiency anemia among female students.

The present study conducted to determine the prevalence of anemia among female university student age (17-25 years old.

The complete blood count (CBC) was performed to all participant samples to measure red blood cell (RBCS) and mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) mean corpuscular hemoglobin concentration (MCHC) and serum iron, all investigated samples were reported with normal HB, normal RBCs, normal MCV, normal MCH, normal MCHC and normal serum irons.

The major limitation in the present study may be due to different in nutritional habits and sample size.

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