

الآية

قال تعالى:

{ اللَّهُ نُورُ السَّمَاوَاتِ وَالْأَرْضِ مِثْلُ نُورِهِ كَمِشْكَاةٍ فِيهَا مِصْبَاحٌ الْمِصْبَاحُ فِي زُجَاجَةٍ الزُّجَاجَةُ كَأَنَّهَا كَوْكَبٌ دُرِّيٌّ يُوقَدُ مِنْ شَجَرَةٍ مُبَارَكَةٍ زَيْتُونَةٍ لَا شَرْقِيَّةٍ وَلَا غَرْبِيَّةٍ يَكَادُ زَيْتُهَا يُضِيءُ وَلَوْ لَمْ تَمْسَسْهُ نَارٌ نُورٌ عَلَى نُورٍ يَهْدِي اللَّهُ لِنُورِهِ مَنْ يَشَاءُ وَيَضْرِبُ اللَّهُ الْأَمْثَالَ لِلنَّاسِ وَاللَّهُ بِكُلِّ شَيْءٍ عَلِيمٌ }

صدق الله العظيم
(سورة النور الآية
(35))

Dedication

To my parents

To soul of **Shiekh / BabikerBadri** Founder of Ahfad
Education Foundation

To my extended family & all friends

Acknowledgment

Special thanks are offered to my supervisor **Dr. Nadia Madani** (PhD in hematology) I am very indebted to her efforts & unfailing help .

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Abstract

This study was done in Khartoum state during April to October 2015, to assessment of the effect of obesity on iron profile in Khartoum state Residents.

Forty nine obese and fifty one non obese individuals have participated in this study. The obese group was divided into: over obese, obese overweight, according to BMI calculation (Kg/m^2).

A questionnaire comprising age, residence, chronic disease, level of obesity, and use of iron supplements, was filled in by all participants involved in this study.

Five ml of venous blood had been drowning in plain container for serum preparation to iron profiles test, the result of non- obese against obese is:

Serum iron (106.3 ± 35.4 *vs* 66.9 ± 35.4)

Serum ferritin (48 ± 30.5 *vs* 22.6 ± 19.5)

TIBC (254 ± 5.6 *vs* 269 ± 58.3)

T/S (26.4 ± 1.2 *vs* 40.6 ± 1.5)

This study revealed that there is significant reduction in serum iron, s.ferritin, transferrin saturation in obese group when compared with non-obese according to p. value is (0.05) .However ,exception which was noted that the total iron binding capacity showed an increase in obese group when compared with non-obese.

The study depicted that age group of 39-60 is mostly affected by obesity than other ages..

The present study has revealed that level of human obesity is directly proportional to serum iron, s.ferritin, transferrin saturation.

ملخص الدراسة

هذه دراسة تحليلية وصفية أجريت على مجموعة من سكان ولاية الخرطوم خلال شهر أبريل إلى أكتوبر 2015، بهدف تقييم تأثير السُّمنة في مستوى الحديد لدى سكان ولاية الخرطوم.

هذه الدراسة شملت 41 فرد يعانون من السُّمنة و51 فرد في الوزن الطبيعي. مستويات السُّمنة حددت وفقاً لحساب مؤشر كتلة الجسم، وقسم المشاركون إلى وزن طبيعي، زيادة الوزن، السُّمنة، السُّمنة المفرطة.

خمس مل من الدم أخذت من جميع المشاركين في الدراسة وضعت في حاوية خالية لإعداد المصل، لاختبار حاله الحديد.

كانت نتائج المجموعة التي تعاني من السُّمنة مقابل المجموعة التي لا تعاني من السمنة على النحو التالي:

تركيز الحديد بالدم: (35.4 ± 66.9) مقابل (35.4 ± 106.3) مايكرو جرام /100 مل .

تركيز الفريتين: (19.5 ± 22.6) مقابل (30.5 ± 48) مايكرو جرام /ليتر

السعة الكلية لربط الحديد: (58.3 ± 269) مقابل (5.6 ± 254) مايكرو جرام/100مل

النسبة المئوية لتشبع الترانس فرين: (1.2 ± 26.4) مقابل (1.5 ± 40.6)

هذه الدراسة لخصت أن هناك إنخفاض كبير في (تركيز الحديد ، تركيز الفريتين، النسبة المئوية لتشبع الترانسفيرين) في المجموعة التي تعاني من السُّمنة عند مقارنتها مع المجموعة التي لا تعاني من السُّمنة وفقاً للقيمة (0.05) باستثناء القدرة الكلية لارتباط الحديد.

الفئة العمرية (39-60) هي الأكثر تعرضاً للسُّمنة من غيرها.

انخفاض معدل الحديد يتناسب طردياً مع مقدار السُّمنة.

Abbreviation

AT	Adipose Tissue
BMI	Body Mass Index
DIOS	Dysmetabolic Iron Overload Syndrome
DMT1	Divalent Metal Transporter 1
FPN	Ferroprotein
ID	Iron Deficiency
IL 6	Interleukin 6
IL1	Interleukin1
MetS	Metabolic Syndrome
mRNA	Messenger Ribonucleic Acid
NAFLD	Nonalcoholic Fatty Liver Disease
NHANES	National Health And Nutrition Examination Survey
NIBSC	National Institute for Biological Standard and Control
SF	Serum Ferritin
SPSS	Statistic Package For The Social Sciences
TfR1	Transferrin Receptor
TIBC	Total Iron Binding Capacity
TNF- α	Tumor Necrosis Factor Alfa
TS	Transferrin Saturation
UIBC	Unsaturated Iron Binding Capacity
WHO	World Health Organization

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